

BUSINESS

AIR TRANSPORTATION

Vol. 27, No. 3

THE AIR MAGAZINE FOR THE BUSINESS EXECUTIVE

September, 1955

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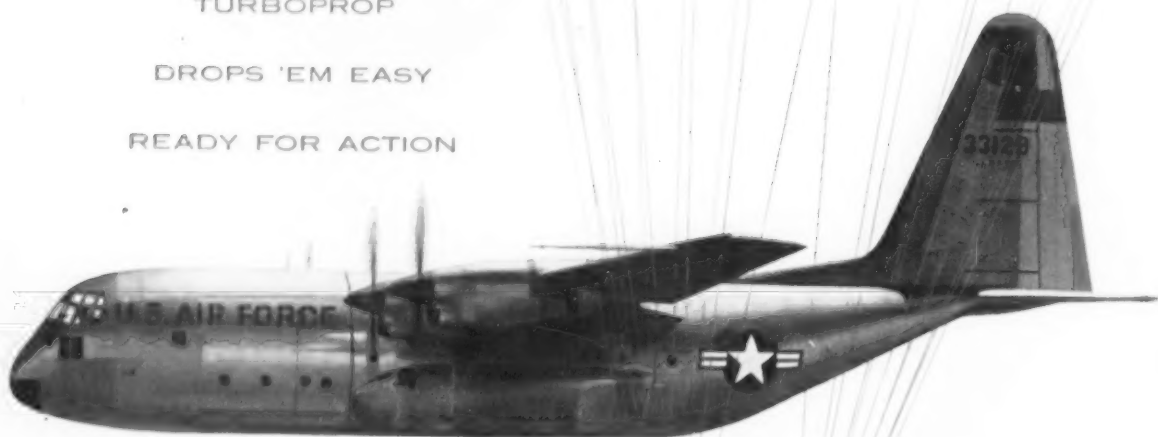
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VOL. 27

SEPTEMBER, 1955

No. 3

AIR CARGO ASSOCIATION OFFICERS



Guiding lights of the recently organized Air Cargo Association of Washington, D. C. (left to right): Jerry Godbout, vice president; Phil Deslauriers, Jr., president; and Frank Williams, secretary-treasurer. Deslauriers is a cargo manager for TWA, and Godbout serves in the same capacity for Capital Airlines. Williams is a Pan Am cargo rep.

OBJECT: MAXIMUM EFFICIENCY



United Air Lines' freight office at San Francisco International Airport, which has been "designed as a prototype for future freight offices to be built at key cities" on the company's system. Freight office has 9,000 square feet of floor space. Processing area is divided according to destination of air shipments. Included is a live poultry room with controlled temperatures and a special section for the accommodation of airborne dogs. According to R. L. Mangold, superintendent of cargo sales for United, more than 14 million pounds of air freight will be handled at this facility this year.

Transport Parley In Boston Sept. 8-9

BOSTON—Transport officials representing all branches of the industry will converge on Boston September 8 and 9 to take part in the 1955 Conference and Seminar of the American Society of Traffic and Transportation, Inc. It will be presented by the society in cooperation with the Harvard University School of Business Administration, supported by the Greater Boston Chamber of Commerce and various traffic organizations.

Panel sessions will take place in the Baker Library. Problems of all forms of transport will be explored. Opening sessions will be devoted to a discussion on *Competition Between Regulated and Unregulated Forms of Transportation*. Dr. George P. Baker, James J. Hill professor of transportation at Harvard and president of the Transportation Association of America, will moderate a panel discussion of the subject based upon a paper to be read by Harold Koontz, professor of business policy and transportation at the University of California. Comment will be by Frank Hussey, president of Farmers Cooperatives and of the Maine Potato Growers Association; and by D. L. Sutherland, chairman of the board, Middle Atlantic Transportation Company. The luncheon meeting will be addressed by Patrick B. McGinnis, president, New Haven Railroad.

Afternoon Meetings

The afternoon session will feature discussion by competition within various forms of transportation, led by Kent Healy, Yale University professor of transportation, with comment by William White, president of Delaware & Hudson Railroad and former head of New York Central; J. W. Hersey, president, Commercial Transport Corporation of Houston, Texas; and Laurence F. Whittemore, president, Brown Company, Berlin, New Hampshire, who formerly headed the Federal Reserve Bank of Boston and a former president of New Haven Railroad.

President Clare J. Goodyear of the society, who is traffic manager of Philadelphia & Reading Coal & Iron Co., will preside at the annual dinner in the Sheraton Plaza Hotel at which the principal speaker will be Sir Gilmour Jenkins, president, British Institute of Transport.

At the second day's sessions, the subject of competition among carriers will be explored with special emphasis on its effect upon the public interest. Dr. Charles L. Dearing of Brookings Institution will be the discussion leader. Commenting on his views will be Ralph Damon, president, of Trans World Airlines; Richard L. Bowditch, chairman of the U. S. Chamber of

Commerce as well as board chairman of the fuel marketing firm of C. H. Sprague & Son Co., Boston; and Albert P. Heiner, public relations and traffic vice president of Kaiser Steel Co., Oakland, California.

Commissioner John H. Winchell of ICC will be the speaker at the final luncheon, Sept. 9, preceding the society's annual meeting. This business meeting, pursuant to the society's policy of complete public access to its affairs, will be open to all who wish to attend, whether or not they are members of the organization.

The conference roster includes an Armed Forces Committee headed by Brig. Gen. E. C. R. Lasher of Washington, D. C., assistant chief of transportation, Department of the Army.

In addition to the Greater Boston Chamber of Commerce and its Maritime Association, organizations supporting the conference and seminar include the Foreign Commerce Club of Boston, New England Traffic Club, Women's Traffic Club of New England, Delta Nu Alpha, Transportation Association of America and New England Shippers' Advisory Board. General chairman is E. V. Murphy of Boston, assistant vice president—freight traffic, New Haven Railroad.

CAB Examiner Approves Riddle Route Extensions

Washington, D. C.—Civil Aeronautics Board Examiner James Keith, in a move of great significance to the air freight transportation industry, has recommended the authorization of route extensions which will bring the all-cargo carrier, Riddle Airlines, as far north as Boston on the East Coast, and northwest into the industrial heartland of the Great Lakes area and key points south.

Keith okayed the two major segments requested by the airline in the North-South Air Freight Case. One would include Boston, New York, Philadelphia, Baltimore, Washington, Richmond, and the Florida cities of Jacksonville, Tampa, Sarasota, Palatka, Orlando, Fort Pierce, Stuart, and Miami. The second fans out from the Florida cities to Atlanta, Louisville, Cincinnati, Indianapolis, Detroit, Cleveland, Columbus, and Chicago.

Stating that Riddle's performance on the New York-Miami-San Juan route "conclusively demonstrated that the public would be benefited by an all-cargo service on these (extended) routes," the CAB examiner termed Riddle "a superior applicant" for the routes and declared the carrier "more than able to fulfill its responsibilities and obligations in developing this service." Paying tribute to Riddle's "excellent organization" and plan of operation, Keith said:

"Due to the fact that the economy of the Southeastern states, particularly Florida with its rapidly growing perishable commodity business and its recent industrial revolution progressively developing, the conclusion is apparent that with proper exploitation the North-South air freight market can be significantly expanded in the future."

Slick Now Boasts 50 Trucker Agents

BURBANK—The number of trucker-agent firms providing the necessary pickup and delivery services for Slick Airways

(Continued on Page 34)

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Air Charters

BOAC has reaffirmed its official policy of giving complete support to the Baltic Mercantile and Shipping Exchange as a market for international air charter transactions. (See Report from London, July AT.)

London reports that most of the late-Summer activity, aimed at September and October charters, involved movements of passengers, particularly ships' crews. Last word was that interest in cargo flights was at low ebb. Lambert Brothers, Ltd., London shipping agents, hazarded the guess that the drop-off in cargo charters "could, to some extent, be due to the fact that cargo loads on scheduled services have been increasing, especially on the North Atlantic route."

The United States Atomic Energy Commission recently chartered a Swissair DC-4 freighter for the purpose of hauling an atomic generator weighing 6,000 pounds, plus 14,000 pounds of literature and advertising material describing the machine. Plane departed from Washington, D. C. Destination: Geneva Conference on Peaceful Uses of Atomic Energy which opened August 8.

Air Freight Forwarders

Acme Air Cargo, Inc.: The company has inaugurated a new air-rail service designed to move freight from 70 receiving stations in 19 Eastern states to the Los Angeles area. Cost will approximate that for rail express, Acme says, and delivery will be made in from two to four days. Average coast-to-coast rail express requires five days. Facilities of Slick Airways are tied into the plan. Here's how the plan works: Acme trucks make pickups, moving the shipments in fast trains to St. Louis. Slick cargo planes take on the freight at that point and haul it to Los Angeles. Acme trucks make door delivery there. Should business warrant it, the service will be expanded to include San Francisco and San Diego. Also, possibly, a similar East-bound service. Transportation of rail-air freight is on a single through document.

Air Express International Corp.: Ignatz Grofik, who helped open the company's operation at New York International Airport, has been appointed New York district sales manager. He has been with AEI nine years.

Airborne Flower & Freight Traffic, Inc.: The company recently reported handling the first air shipment of fresh Alaska king crabs (2,300 pounds) to California. Consignee was the Merritt Meat Company of Oakland. Shipment was flown from Kodiak, Alaska, to Seattle, by Pacific Northern Airlines. Airborne personnel met the plane, deposited them in coolers until time for loading aboard connecting flight to San Francisco. Waiting truck rushed them to San Bruno where they were cold-stored overnight for morning delivery.

Peter A. Bernacki, Inc.: Peter Bernacki, president, is on a business tour of the Caribbean area. Purpose of expedition is to set up new methods for the expediting of air shipments for the benefit of shippers and consignees.

(Continued on Page 8)

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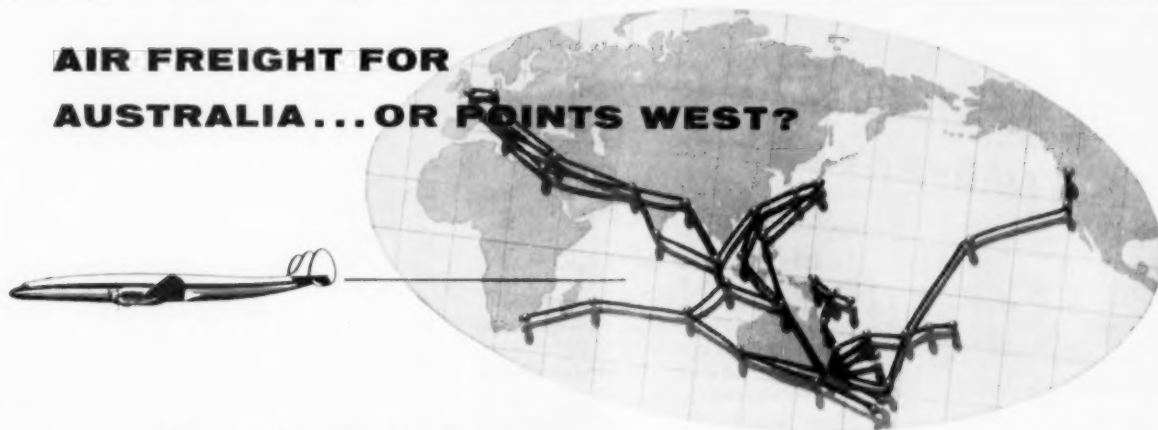
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Pan-Maritime Cargo Service, Inc.:
Congratulations to Pan-Maritime on its
new newsletter. First issue reports the
opening of an office in Frankfurt. Winston
P. Warner, president, is directing the com-
pany's European operations from Frank-
furt.

Air Mail

Representatives of 15 international
airlines recently convened in Miami to
study methods of expediting shipments of
intercontinental air mail. Sponsor of the
meeting was the Latin American Division
of Pan American World Airways. Aim
of the meeting was to organize a committee
which would cooperate with the Postal
Union of the Americas and Spain in fa-
cilitating mail handling between North
and South America. Sessions were con-
ducted in English, Spanish, and Portuguese.

Airports

The Bank of America has inaugurated
banking service at San Francisco Interna-
tional Airport. Service includes accepting
deposits and cashing checks. Business
hours: 10:00 a.m. to 2:00 p.m., Mondays
through Fridays.

The new Terminal Building at Gen-
eral Mitchell Field, Milwaukee, was dedi-
cated at an all-out three-day celebration.
General chairman of the Air Terminal
Dedication Committee was Clarence J.
Muth, manager of the Air Service Divi-
sion, Milwaukee Association of Commerce.

Seattle-Tacoma International Air-
port reports a total of 3,341,550 pounds
of freight handled during the month of
June, in contrast to the June, 1954, total
of 2,313,064. Express poundage dropped
from 210,375 pounds in June of last year
to 188,096 pounds in June, 1955.

Records for the first half of 1955
show a total of 52,161,706 pounds of im-
port-export cargo handled at Miami In-
ternational Airport—a 20% gain over last
year's record half. Total cargo handled
(domestic and international) reached
66,956,600 pounds; mail, 15,895,412
pounds.

Agriculturals

Sixty thousand pounds of alfalfa seed,
airhauled from Burbank and San Fran-
cisco by Slick Airways and the Flying
Tiger Line, were flown down to Miami in
six Riddle Airlines cargo planes. Under the
direction of Harry Weaver, Riddle vice
president in New York, the huge ship-
ment of seed purchased by the Chilean
Government was accommodated without in-
terruption of other freight service. At
Miami the 30 tons of seeds were picked
up and flown to Chile by Empresa Trans-
portes Ala. Ltda. Expeditious handling of
the shipments assured the meeting of a
planting deadline late last month. Air
freight forwarder coordinating the opera-
tion was American Shippers, Inc.

Last year Holland originated the air
shipment of 1,200 tons of flowers and 65
tons of plants to all parts of the world.

The Caracas supermarket, Automer-
cado, now is selling United States-grown
(Continued on Page 10)

AIR TRANSPORTATION

The World's First and Only Air Cargo
Magazine . . . Established
October, 1942



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of Circulation, Inc.

AIR TRANSPORTATION, published once each month, thoroughly covers the entire air cargo industry for the benefit of all those engaged in shipping and handling domestic and international air freight, air express, and air parcel post, as well as using the domestic and international air mail services. Included in AIR TRANSPORTATION'S wide coverage are: air shipping, cargo plane development, rates, packaging, materials handling, documentation, air cargo terminal development, insurance, routing, interline procedures, new equipment, commercial airlines, military air transport service, air freight forwarders, and business flights.

Subscription rate for United States and Possessions, \$5.00 for one year, \$8.00 for two years, and \$11.00 for three years; foreign countries, \$6.00 for one year, \$10.00 for two years, and \$14.00 for three years. Individual copies, 50 cents each.

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Net circulation of this issue (not including distribution to advertising agencies, advertising prospects, public relations firms, newspapers, and magazines; special distributions for promotional purposes; and cash sales) totals 8,039 copies. Gross circulation is more than 8,550 copies. This issue will be received by a minimum of

6,855 shipping and business executives, including:	463 airline executives and other personnel
2,899 traffic managers	114 military personnel (principally MATS)
1,016 presidents; partners; proprietors	7 banks
61 vice presidents	18 insurance firms
45 secretaries; treasurers; comptrollers	89 trade organizations
585 freight forwarders	211 Federal, state and city government departments
393 export-import managers; export-import merchants	95 educational institutions and students
395 purchasing agents	64 business and public libraries
1,009 aviation department heads of commercial and industrial firms	49 foreign governments
127 general and sales managers	54 aircraft and aircraft equipment manufacturers
325 shippers awaiting sub-classification	20 miscellaneous

The most recent study of *Air Transportation's* circulation has shown a pass-along of each issue to 3.45 persons, or a total readership of 4.45 persons per copy. On this basis, this issue of *Air Transportation* will be read by a minimum of 35,774 persons. The latter figure does not include readers not classified under "net circulation."



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fruits and vegetables which previously were unknown in Venezuela except in the most expensive restaurants. The produce, airshipped to the Venezuelan capital by Pan American World Airways, is being sold at popular prices. The initial consignment included 3,852 pounds of lettuce, celery hearts, peaches, plums, cherries, raspberries, blueberries, as well as an assortment of fresh meats, white bread, and fresh eggs. Shipment left Miami at night, reaching Caracas in the morning. Because of the altitude at which the transport flew, refrigeration was not necessary. According to latest word, the air shipment of perishable foods to Venezuela will continue on regular schedules.

Civil Aeronautics Board

Ed Hudak, cargo sales manager of Pan American World Airways, in testimony before CAB Examiner Thomas L. Wrenn, declared that more than 65 million pounds of air cargo a year moving into Miami for shipment to points south must travel by surface means because no adequate air cargo service exists along the East Coast. He submitted Miami Airport figures showing 82 million pounds of southbound air freight shipped out of Miami, as compared with only 17 million pounds arriving at the airport. The balance, Hudak said, must be arriving in Miami by surface means.

The Pan Am cargo official stated that a vigorous sales campaign with adequate cargo plane service would capture the major portion of this cargo from the surface carriers. He said that his company plans to cut air cargo rates for through shipments to bring air and surface tariffs closer to equalization. This would enable shippers to use air services more cheaply, Hudak argued.

To take care of the expected upsurge of cargo business, Pan Am would operate 10 weekly all-cargo flights, stepping this up to 28 per week within a year. The following points were stressed by Hudak:

(1) Half the shipments flown by Pan Am from Miami to Latin American destinations arrive from Northeastern cities by surface means.

(2) Air cargo service from Philadelphia and Washington to Miami is so bad that shipments frequently must be backhauled to New York before space accommodations can be made for them.

(3) Eastern Air Lines and National Airlines, both flying between New York and Miami, do not operate a single all-cargo flight. Cargo flown by the two carriers are in combination planes only.

(4) Neither Eastern nor National maintains a cargo reservation system.

(5) The two aforementioned airlines have refused to enter into joint programs for promotional rates to develop cargo potential.

(6) Cargo service from Boston is inadequate, often requiring transshipment at New York.

Relative to Hudak's statement, Robert D. Havenstein, cargo sales manager of National Airlines, told AIR TRANSPORTATION that its interchange agreement with Pan Am and Panagra, soon to go into effect, also incorporates the provision of an ultimate exchange of cargo aircraft. He said that "as a matter of fact, we are meeting with Pan Am's cargo people today to get the ball rolling on interchange." Havenstein pointed out that the record shows that Pan Am in the past has de-

(Continued on Page 31)



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Memo to Shippers:

IATA's Four Dozen

LAST MONTH, the air carrier members of the International Air Transport Association, Traffic Conference No. 1, put into effect a new structure of cargo rates across the Atlantic calculated to encourage volume shipments. This was amply explained

in the August issue of *AIR TRANSPORTATION*. Big feature of the new setup was the introduction of a system of commodity rates that is "far less complicated and contains much fewer variables to vex the shipper and the carrier." In a nutshell, about 1,000

specific rates for individually named commodities moving between specific points have been reduced to a mere 48 descriptions of commodity rates, "into each of which falls a variety of individual items." Here are those four dozen descriptions.

- | | | |
|---|---|---|
| 1. Foodstuffs, including Spices, Beverages | 21. Aircraft, assembled or disassembled | 36. Watches, Clocks |
| 2. Crabs, Crawfish, Lobsters | 22. Electrical equipment | 37. Imitation Jewelry, Novelties, Ornaments, excluding Watches, Clocks |
| 3. Live Fish | 23. Ceramics, Glassware | 38. Empty Watch Cases, Metal |
| 4. Mealworms | 24. Synthetic Stones, unmounted, unset, unstrung | 39. Toys, Sporting Goods and Supplies |
| 5. Furs, Hides, Pelts, Skins | 25. Chemicals, Drugs, Pharmaceuticals, Medicines | 40. Pens, Pencils |
| 6. Leather, Leather Manufactures | 26. Coal Tar Dyes | 41. Smokers' Supplies, Tobacco, including Cigars, Cigarettes |
| 7. Floral and/or Nursery Stock excluding Cut Flowers | 27. Cosmetics, Toilet Preparations and Articles, Perfumes | 42. Furniture, Furniture Parts |
| 8. Cut Flowers | 28. Plastic Materials and Articles, partly finished, not including completely finished manufactures | 43. U. S. Government Post Exchange Material |
| 9. Mimosa | 29. Newspapers, Magazines, Periodicals, Books, including Printed Matter, Sales Promotional Material | 44. Bottle Caps |
| 10. Tobacco Samples | 30. Scientific and Precision Instruments, excluding Watches, Clocks | 45. Builders' and Engineering Construction Materials |
| 11. Essential Oils | 31. Musical Instruments, Musical Boxes, including Gramophones | 46. Household Wares, consisting of Devices, Tools, Instruments applied to housekeeping tasks; Articles commonly used in household living or maintenance |
| 12. Sponges | 32. Gramophone Records, Recording Tape | 47. Household Goods, Personal Effects: (a) Household Goods used, not for resale; (b) Personal Effects, consisting of Wearing Apparel, Cosmetics, Toilet Articles, and Articles worn by an individual, used, not for resale when in mixed shipment with the commodity named in (a) above |
| 13. Yarn, Thread, Fibres, Textiles, Textile Manufactures | 33. Microscopes, Spectroscopes | 48. Personal Effects, including Wearing Apparel, Cosmetics, Toilet Articles, and Articles worn by an individual, used, not for resale |
| 14. Clothing, Wearing Apparel | 34. Optical Goods, Photographic and Projection Equipment, Supplies, Accessories | |
| 15. Shoes, Slippers, other than straw | 35. Motion Picture Films, Exposed and Advertising Material appertaining thereto | |
| 16. Drawnwork, Needlework, Embroideries, Lace | | |
| 17. Metals in ingot form and semi-manufactured products, including Grain, Sheet, Foil, Powder, Sponge, Wire, Rod, Tube, Circles, and or Castings, excluding Gold, Platinum, Platinum Metals | | |
| 18. Silverware | | |
| 19. Cutlery | | |
| 20. Business and Office Machinery and Supplies, Machinery, Tools, Surface Vehicles | | |

What is controlled transportation? How does it affect the requirements of a company's cost- and competition-conscious Purchasing Department? Seeking cheaper methods of freight transportation does not necessarily add up to economy. Proper analysis and reexamination of a company's total procurement policy might "lead to a more intelligent and profitable use of air transportation." The author is eminently qualified to tell why . . .

It Can

IN THESE DAYS of lower profit margins, high labor cost and the high cost of factory, warehouse and office facilities, modern managements are bending every effort to reduce expenses wherever and whenever this can be accomplished without detriment to the quality and quantity of goods produced and services rendered.

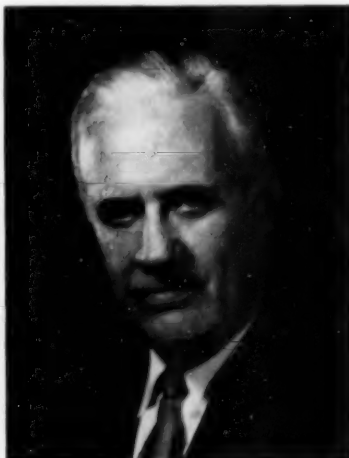
Sales management is giving greater consideration to the cost of distribution.

Purchasing executives are fighting to reduce the costs of both acquisition and ownership of inventory.

No Different

These are modern requirements of industrial management, but unless we are mistaken, they are not essentially different from what they used to be. It is a matter of emphasis. They are the same as before, only more so. Plants still need to be located with an eye to sources and markets, but now sources are more widely scattered and markets are a lot broader. Holding down payroll cost is an industrial requirement from away back, but hourly rates are so high now and working conditions so important in fixing the final wage bill that it has become more important than ever to avoid unnecessary manhours and to increase the productivity of those worked. Facilities—buildings and machinery—have always cost money, and nobody ever put up a building just to make a more impressive photograph for the annual report; but the cost of facilities today makes it more necessary than ever before that not a single high-priced square foot be provided or retained for warehouse or storage purposes, if it can be avoided. Customer service is not a new requirement, but these days of the roughest competition in memory have given

sharper meaning to the term. All these add up to the requirements of industry and industrial management today.



Leonard G. Hunt

In the forefront of these modern industrial requirements are those involving the vital job of procurement.

The functions and duties of a purchasing officer—or for that matter, those of a traffic manager responsible for the costs of transportation of procurement materials—have multiplied severalfold during the last 20 years. In the old days, little was known about “controlled transportation,” especially as it applies to the procurement function.

Now what is meant by “controlled” transportation, and how does it bear today on the requirements of the Purchasing Department?

Controlled transportation, as we see it, is not only transportation that carries something for a company, but does it on time and on schedule—the purchasing agent's schedule. It is trans-

portation bought on a specification which reads not from origin to destination, but from destination to the vendor's shipping dock.

Thirty-odd years ago, an electrical measuring instrument manufacturer, with whom I had my first job, would issue a purchase order and “buy transportation” in much this way:

“Ship Cheapest Way”

We noticed we were running a little low on contact switches for a special type of energy-measuring meters. Or maybe the market in that year was soft and it seemed like a good idea to stock up. So we wrote the nearest supplier and ordered a six-months' supply. The vendor acknowledged the order in due course, and gave us a shipping date of “from four to six weeks” which, since we had specified “ship cheapest way,” meant receipt in from six to eight weeks. Maybe we got them in time, and maybe we didn't have to interrupt final assembly of this particular type of meter for lack of switches. If so, well and good. Ordinary transportation was good enough. But we hadn't considered that these switches were valued at something in excess of \$5.00 a pound; that we would have a fair amount of capital tied up in relatively slow-moving switches; that we had to store them for a while and pay men to move them in and out, take inventory of this item at the approaching year-end, and otherwise pay heavily for the cost of warehousing and handling and for the cost of possession. We did, however, provide enough stock to keep production going for quite a while—assuming the Sales Department got some additional orders for this quite special type of product.

Today, this same company tells us that things are not quite as loose and

Be Cheaper To Pay More

easy as before. Though their plants and facilities have expanded manyfold, the receiving dock is still the same size and the receiving warehouse is little larger. Management in that company—as is the case with so many alert managements—has realized that too much money can be tied up in parts and materials inventory; that too many manhours are spent shoveling the stuff in, around, and out; that it pays to play it closer to the chest—to the point of never letting the line go down, but little further.

Controlled Transportation

When that management edict goes out, purchasing executives are going to buy transportation — *controlled* transportation—which has a delivery specification when inventory is down to a matter of a few days rather than months—and in certain important industries, down to a standard of 30 to 36 hours. Traffic managers are going to figure transit time, not in terms of what a freight solicitor has said over a cigar, but the actual, predictable dependable transit time. Having *first* determined these facts of life, the buyer *then* places his purchasing order or issues shipping date instructions on an order previously placed, and he'll nail down the fact that the vendor is to ship in precisely the amounts ordered on a precise day, so that the shipment will be at the dock not before, not after, but on the day and at the hour when he wants it there. That is the way to buy controlled transportation and also to get full value from it. And the carrier that provides that kind of service is selling controlled transportation.

There are real benefits from procuring in this fashion. Production is kept happy, which is the main thing, but

you save in the costs of carrying inventory, warehouse and handling expense and losses from spoilage or from obsolescence when there is a model change. The transportation bill is not increased materially, if any, since the purchasing agent orders in quantity to avail himself of the lowest carload or truckload rate.

This is the meaning and the apparent value of controlled transportation—transportation so predictable and so dependable that you build your whole procurement and manufacturing operations around it.

Of course, there is one thing about transportation: it can never be precisely predictable on every occasion. There will be occasional delays. If you have ever yielded to the temptation to burn the ear of a carrier representative for letting you down on a precise delivery schedule, I wonder if you have thought of the basic difference between transportation—be it rail, truck, parcel post, or air—and manufacturing. The difference is that in transportation there can be no final inspection of what the carrier sells before you get it. You turn out your product, inspect it carefully, find it in perfect shape, give it a pat, send it on its way, and say, "There you are. That will be \$5.85." A carrier sets up his personnel and facilities to do a perfect job of transportation, accepts the shipment for delivery at a certain time, starts it out, and then prays that derailments, mechanical breakdowns, bad weather,

and human failures en route—any one of 640-odd things that can go wrong—will not occur.

So you must not expect that the best controlled transportation you may count on and buy will always hit your delivery target on the nose. Things that can happen en route will, just as your vendor will not always be able to deliver on schedule. But fortunately there is an adjustment factor available to offset many failures in the normal controlled transportation schedule. It is *air freight transportation*.

Air freight is still new. Its capacity is not unlimited. Airplanes do not go everywhere. And it is costly, compared to carload and truckload rates. But it is fast, tremendously fast, and the extra cost is trivial compared to the cost of a stopped production line or a valuable piece of machinery idle for want of a part.

Adjunct to Surface

We believe that one of the great values of this newest, fastest form of freight transportation is as an adjunct of surface transportation. We expect to see air freight grow and thrive in a role noticeably supplementary to surface transportation. This does not mean, either, that air freight will be relegated to a minor, insignificant, emergency role. It will be small in volume, relatively, we think, but highly significant and with many years of

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Everything, but *Everything* Goes by Air



ANIMALS: The origins of these baby gorillas (Belgian Congo) and the 100-pound sea lion (Santa Cruz Islands) are widely separated, but hep shippers are fully aware that that poses no problem for the airlines. Sabena, which flew the gorillas to New York for onward flight to Washington, D. C. (consignee: National Zoological Park), had them safely stowed in a pressurized DC-6C. With the hairy twins is Marine Corps Captain Arthur Arundel. On the other hand, the seal friend of Stewardess Jo Holmes, shipped by the Hermosa Ocean Aquarium, Los Angeles, went via Scandinavian Airlines System's polar route to Europe. Consignee: the Tilburg Zoological Gardens in Tilburg, Netherlands.

RAW YARN: The Belgian firm of E. T. S. Pettit has used the services of Seaboard & Western Airlines to rush a transatlantic shipment of a type of yarn (made of lamb's wool and fur) used in the manufacture of high-style knitted dresses for women. Shown above is only part of the shipment. Consignee: Hohenberg & Company, New York.



AIRCRAFT: A difficult loading job, but successfully accomplished nevertheless. Since July 7, Slick Airways has been hauling rear fuselage sections of F-100 Super Sabre jet fighters from the Chance Vought plant at Grand Prairie, Texas, consigned to North American Aviation, Inc., Columbus, Ohio. They will be assembled into completed F-100s. Each bulky section is 13 feet long. Airshipping these sections is cheaper because they move in single units and do not require expensive crating.

TAPE RECORDER: Enclosed in the case being taken aboard the TWA plane is an RCA magnetic tape recorder housed in a specially engineered package developed by the Jerome F. Gould Corporation. The shipment, dubbed the Globe Trotter Project, which is sponsored by the Society of Industrial Packaging & Materials Handling Engineers, left New York for a round-the-world trip. Purpose, as Secretary of Commerce Sinclair Weeks put it, is a "refreshing demonstration of modern American packaging and materials handling and a sincere gesture of good will." Most of the worldwide trip will be by plane; but an Athenian donkey cart, a Hong Kong rickshaw, and an Italian gondola also will play a part in the transportation of the shipment. Weight is 111 pounds. A combination lock keeps it closed. Know how to open it? Dial: Freedom 1776. Shown in the picture are Jerome F. Gould (left), export packer, and Alex Nizemetz, of RCA's International Division.

*From abroad comes this exclusive report on the
first direct all-cargo service between the
United States and Canada and Africa*

INTRODUCING . . .

Africargo

LONDON: On the 23rd, July, a specially adapted *York* aircraft of Hunting-Clan Air Transport left Manchester Airport loaded with goods which had arrived that morning from various parts of Scotland and the North England. It flew first to London Airport and, after loading livestock, automobile spare parts and other items, left for Nairobi in East Africa. This was the inaugural flight of Hunting-Clan's Africargo services.

It was also the first all-cargo air service between the United Kingdom and East Africa and was part of a program which will eventually embrace Central, West, and South Africa, and represented the culmination of several years' research and negotiation by Hunting-Clan Air Transport, who have now been granted the necessary licenses by the Governments of the United Kingdom, East Africa, the Central African Federation, and the British territories in West Africa. The company has the United Kingdom Government's license to extend to South Africa, but the final permit from the South African authorities is still being negotiated.

Weekly Departures

To begin with there will be weekly departures for East Africa, and these frequencies will be varied to meet demand.

Although Hunting-Clan's Africargo services are the first of their kind between the United Kingdom and Africa, airfreighting as such has developed very rapidly during the last eight years or so. For example, taking the world's

scheduled airlines, the total freight moved in 1947 produced 187 million ton-miles. In 1954 the figure was 716 million; that is, nearly four times as much. Out of this BOAC achieved an almost exactly similar increase—from 5.6 million ton-miles in 1947 to 23.6 million in 1954. The increase achieved by Silver City Airways—the United Kingdom's now famous car-ferry operator—was even more spectacular—from 164,000 ton-miles in 1947 to over 2 million in 1954; and a large percentage of this lift was in their short cross-Channel operations. In fact, in their ferry operations they lifted in 1954 some 58,000 short tons of vehicles and general cargo. Further afield, East African Airways has shown what can be achieved where there is energetic concentration on air freight development. In 1948 EAAC handled only 60 tons of cargo, but in 1954 they dealt with 2,100 tons—and are steadily expanding their cargo services. Figures

quoted for United States operators show similar large increases since the end of the Second World War.

The cargo movement represented by these figures is infinitesimal compared with sea and rail freight traffic; but the main point is that they register steady, and in some cases quite spectacular, expansion. Leaving out freight carried as "supplementary" or fill-up loads on scheduled passenger services, there is at present probably the equivalent of some 50 large four-engined aircraft engaged throughout the world solely on scheduled freight operations, which probably represents an employed capital of 30 to 40 million pounds.

Advantages Now Known

The advantages of sending goods by air are now becoming better known. The chief one is, of course, speed, since goods are delivered many weeks earlier than by surface transport methods when large distances are involved. Air transport also cuts out the frustrating and sometimes lengthy delays due to inadequate port and rail facilities. Such delays are costly for many reasons, but especially in terms of insurance, interest, and lost customers and markets. Insurance rates on air cargo, for example, with the lesser risk of breakage and pilferage, are lower than those for other transport methods.

There are many advantages, too, in the transport of livestock by air and this is rapidly becoming one of the most important sections of the air

(Continued on Page 19)

Airwork-HCA Schedule

The interline agreement of Airwork Atlantic and Hunting-Clan Air Transport for an all-cargo service linking the United States and Montreal and Africa is now in effect.

According to John E. Muhlfeld, Airwork president, the airline's Flight 500 departs from New York and Montreal every Thursday. Ports of call are Marseilles, Malta, Cairo, Khartoum, Entebbe and Nairobi. Return HCA flight departs from Nairobi every Tuesday, following the same route, and connecting with Airwork's Flight 401 which arrives in Montreal and New York on Thursday.

MILITARY SHIPPERS RECEIVE A HELPING HAND



THREE NEW Air Force District Traffic Offices are now operating to provide a field organization for the improvement of traffic management and provide emergency traffic control throughout the United States. A fourth office is expected to be in operation soon.

Headquarters, Air Materiel Command, Dayton, Ohio, announced the various traffic offices will be charged with constant scheduled visits to field shipping points. Here the experts will analyze the traffic problems of each point and guide and assist field traffic managers in the most economical, fastest and safest mode of transportation.

At present traffic offices are operating in this manner at Olmsted Air Force Base, Pennsylvania; Tinker Air Force Base, Oklahoma and Norton Air Force Base, California. The fourth base, Robins Air Force Base, Georgia, will be in operation soon.

Each district traffic office consists of:

- ▶ A traffic division with a tariff library.

- ▶ A service division to include packaging, loss, damage, loading, blocking and bracing and other assistance required.

- ▶ A review and analysis division to review past performance and recommend future activity to insure the best possible management of Air Force transportation.

According to AMC, the district traffic office will not usurp the local Air

(Continued on Page 19)

JURISDICTIONAL AREA

Middletown Air Force District Traffic Office is comprised of:

Connecticut	New Hampshire	Rhode Island
Delaware	New Jersey	Vermont
Maine	New York	District of
Maryland	Pennsylvania	Columbia
Massachusetts		

Mailing Address—AF District Traffic Officer, Middletown Air Materiel Area, Olmsted AF Base, Middletown, Pennsylvania.

Warner Robins Air Force District Traffic Office* is comprised of:

Alabama	Louisiana (East of	Ohio
Florida	the Mississippi)	South Carolina
Georgia	Michigan (South-	Tennessee
Indiana	ern Peninsula)	Virginia
Kentucky	Mississippi	West Virginia
	North Carolina	

* This office is in the formative stage and will be in operation in the near future.

Oklahoma City Air Force District Traffic Office is comprised of:

Arkansas	Michigan (North-	New Mexico
Illinois	ern Peninsula)	Oklahoma
Iowa	Minnesota	Texas
Kansas	Missouri	Wisconsin
Louisiana (West of	Nebraska	
the Mississippi)		

Mailing Address—AF District Traffic Officer, Oklahoma City Air Materiel Area, Tinker AF Base, Oklahoma City, Oklahoma.

San Bernardino Air Force District Traffic Office is comprised of:

Arizona	Montana	South Dakota
California	Nevada	Utah
Colorado	North Dakota	Washington
Idaho	Oregon	Wyoming

Mailing Address—AF District Traffic Officer, San Bernardino Air Materiel Area, Mira Loma AF Station, Mira Loma, California.

Growth and Prosperity Through Business Use Of Airplanes



By CLAUDE B. FRIDAY

Director, Bureau of Aviation

New York State Department of Commerce



Claude B. Friday

MORE AND MORE, business and professional people are coming to appreciate the time and energy saving of airplane travel and the utility and versatility of executive aircraft.

Within the past decade the growth of business flying has been phenomenal. In 1946 about 2,500 airplanes were being used by and for business, and about 500 of them were multi-engine. Currently, the best estimates place the number of business aircraft in use at 21,500, which is 16 times the size of the fleet operated by all domestic airlines. Of that number, it is estimated that 2,437 or over 10% are multi-engine. Last year these planes traveled some 546 million miles on business trips of all types and spent an estimated 3.9 million hours in the air. This is the equivalent of flying 21,840 times around the equator and remaining airborne continuously for some 400 years. The typical business plane is flown some 300 hours or more

a year, which is equivalent to driving a car 40,000 to 50,000 miles.

These data clearly indicate that the business airplane, as an important tool for the advancement of American enterprise, is here to stay. It has now become mainly a question of how fast its utility will grow.

Decade of Progress

The outstanding business-flying growth over the past 10 years has been accompanied by a remarkably good safety record—a record which ranks with that of the safety-conscious scheduled air carriers. It is a tribute to the high standard of maintenance practiced by business-aircraft operators and to the excellence of the professional pilots they employ. The National Business Aircraft Association shows that a person is exactly 60 times as safe in the corporation airplane as he would have been in grandfather's horse and buggy. In 1952, business aircraft had a fatality rate of one for every 200 million passenger-miles traveled. By comparison the rate for automobile is 14.4—nearly 15 times as high. Insurance companies consider corporation aircraft pilots twice as good a risk as house painters.

Decentralization of business and industry has had a large part in the increased use of aircraft for business uses. The trend of industrial decentralization is striking. Before 1940 approximately 50% of all plants were located in cities having a population in excess of 100,000. Since that date, the figure has dropped to about one-third. It is most significant that 30% of the new plants were established in towns with populations of 10,000 or

less—the size of the towns making it very unlikely that they would have regularly scheduled airline service.

For businesses located in communities where there is no airline service, the convenience of owning an aircraft is evident. But what of cities that have regular airline service? The answer is the same. Business aircraft are still needed. Because an organization is located in a community having airline service doesn't always mean that such service meets the peculiar needs of the company.

The necessity for business aircraft as a business tool to be used as a supplement to the services of airlines is easily understood—there are some 6,000 airports in the United States and only about 600 (10% of them) are served by scheduled airlines. Of the 265 landing facilities shown on the 1955 New York State Airport Map and Directory, published by our department, only 20 are served by scheduled airlines. (This map is available free. See Item No. 122 in *Come 'n' Get It.*)

And how does this business flying affect the commercial airlines? Once a businessman flies, he is usually sold on air travel. His opportunity to try it becomes great when his company owns an airplane. But this same business-

(Continued on Page 29)

"Business aircraft are generally associated in the public mind with large corporations earning gross profits in the millions each year. Too little has been said about how small corporations utilize airplanes and what their use has contributed toward business growth and prosperity."

BUSINESS FLIGHT



A DC-3 for Outboard . . .

● A DC-3 executive aircraft was recently delivered to the Outboard Marine & Manufacturing Company by L. B. Smith Aircraft Corporation which reengineered and custom-designed the ship. Interiors, created by Charles Butler Associates, were in accordance with Outboard's specifications. Reports Smith: "Pickled walnut woods in paneling, buffet, radio and beverage console and for hide-away tables have been used in conjunction with tan gabardine headlining, green pebble weave carpeting, golden tweed chair and cyprus green divan fabrics to create an unusually spacious and tone-pleasing effect. The cabin has been proportioned into three areas. A private compartment is forward with long divans on each side. A central grouping of four Aerosmith custom-contoured chairs combine with a 10-foot long beverage and radio console to form the mid-ship section. A unit of four full-swivel Aerosmith reclining chairs and a contour lounge overlook the rear panoramic view windows. A 21-inch television set is mounted on the rear paneling with four high-fidelity speakers concealed in the cabin overhead. AM-FM radio is also coupled into the speaker system. A large stainless steel galley, complete with ice chest food storage and electrical connections for heating food and beverages, is located forward of the main cabin. Lavatory facilities, also located forward, were specifically designed to include hot and cold running water for the wash basin, 24-volt plug-ins for electric shaver, and many convenient storage spaces for clean and used linens."

Cool, Comfortable Flight . . .

● Business travelers on the Panagra El Interamericano flights are being treated to a new and improved type of air conditioning which produces a complete change of air every two minutes, both in flight and on the ground. The Freon system removes eight gallons of water from the air each hour, maintaining cool, dry, even temperature in the cabin, regardless of heat conditions outside the plane.

Converting a Goose . . .

● Air Service, Inc., at Bridgeport Municipal Airport, recently performed a creditable conversion job on a Grumman Goose owned by the Garland Manufacturing Company, Detroit, and piloted by Marty Bohn. Air Service installed overhead cold air ducts incorporating baggage racks, reading lights, and cold air outlets. Interior sidewalls and overhead were of lightweight panel covered with washable plastic. Lines on the standard seats and divan were squared to produce a modernistic appearance. Strong lightweight honeycomb flooring was laid down, covered by a long-wearing rug. The ship's step door was designed and fabricated by Bohn.

Helicopters in London . . .

● Flying to London? You'll want to know that British European Airways has inaugurated scheduled helicopter service (eight round trips a day) between Waterloo Air Terminal in Central London and London Airport. Distance is 17½ miles. Flight time: 15 minutes. One-way fare: \$4.90.

Excursion Fares . . .

● TWA, American and United have filed new excursion fares which would bring the coast-to-coast tourist rate down to the all-time low of \$80 each way, plus tax. Fares would be good Monday through Thursday for round trips completed within 30 days. TWA's excursion fares (effective September 12) apply to flights between New York and Los Angeles or San Francisco; American's (effective September 12) apply to flights between New York, Philadelphia or Washington and Los Angeles, San Francisco, Oakland or San Diego; United's (effective September 16) apply to flights between New York, Newark, Baltimore, Washington or Philadelphia and Los Angeles, San Francisco or Oakland.

MILITARY SHIPPERS

(Continued from Page 15)

Materiel Area transportation officer's authority but rather will furnish traffic management information upon which these offices will base their activities.

AMC says the decentralization of the traffic management functions from the headquarters will give a great degree of specialization. • • •

AFRICARGO

(Continued from Page 15)

cargo business. Animals are notoriously bad travellers and necessarily lengthy surface journeys often result in animals arriving badly fatigued at their destination. Race horses and pedigree farm stock are therefore frequent air travellers.

So far all-cargo services have been developed in the United States, but not to any appreciable extent in the United Kingdom. HCA's services are the first of a new type and might well set the pattern for all-cargo development throughout the Commonwealth.

Although they will be scheduled services, there are several novel features in the licenses which recognize that the development of air-cargo services requires a very different technique from the operation of scheduled passenger services. HCA have freedom to vary the frequencies according to the fluctuating flow of air cargo, to vary the timetable to bring in additional or off-route stops, to operate by one route in an outward direction and by a different route homewards—and so on.

As the initial stage of the project will be confined to what are known as "cabotage" sectors, there will be considerable freedom to try out tariff experiments, which are essential if the development of air cargo is to be accelerated.

Aim: More Volume

The object of the scheme is to develop new categories and increased volume of air cargo, and not to divert existing cargo from the scheduled passenger services, which will still have their share of the fast air parcel traffic. BOAC and HCA have therefore entered into an agreement under which they will collaborate on the development of air cargo, both as supplementary load on BOAC's frequent scheduled passenger services and on HCA's new all-cargo operations. A Working Group has been set up with this object and one of its principal functions will be to agree tariff experiments.

LET'S CONSULT THE AIR SHIPPER

By **WHITNEY BOWLES**

Air Transport Specialist and Consultant on Related Problems



COMMERCIAL AIR FREIGHT today is, for many industries, an essential element in the merchandising process. Advertising has been defined as "moving people toward the product," merchandising as "moving products toward people," selling as "the consummation of the trade." The growing pressure for expanded markets and merchandising techniques which will accelerate the movement of products to people has led inevitably to increased use of air freight in marketing, both domestically and overseas. Today a growing volume of products is literally flying toward people.

Typical example is the Eastern manufacturer of eyeglass lenses who, through air freight, has increased the effective marketing area for his product to include the West Coast, without additional capital investment for local manufacturing or distribution facilities. Similarly, a Boston printing firm has increased the market for its business cards, and through air freight, is today successfully competing with local firms on the West Coast and intermediate points. (See *13¢ Was a Lucky Figure in July, 1954 AT*.)

The manufacturer of a major household appliance with a half-dozen or more local distribution warehouses scattered throughout the United States is only one of many major firms currently studying the application of air freight to their distribution and merchandising problems.

Internationally air freight plays an equally important role in the distribution of various products from manufacturer to consumer. Greater consumer markets are not always the immediate objective. Frequently through the use of air freight competitive advantage is taken of lower-cost labor markets or specialized skills in the processing of goods.

Examples of this can be found in the unfinished piece goods airshipped to the Philippines, where they are hand-embroidered and returned by air freight for sale in various parts of the United States. Also in the glove industry, where unfinished gloves are airfreighted to Puerto Rico for hand sewing and then returned by air for marketing in the United States and elsewhere.

In the preceding article in this series we examined air freight as an essential function of overall materials handling, and its vital contribution to faster supply pipelines, the reduction or elimination of warehousing, packing, and handling. An equally important aspect of air freight is the vital relation it bears to merchandising. Air freight's integration with the functions of advertising and sales as an essential element in the merchandising process is perhaps one of its most important aspects.

Possibly one of the best examples of this aspect of air freight is in the field of women's ready-to-wear fashions. Leading fashion houses in this field, like Ohrbach's in New York, make regular use of air freight in the merchandising of their fashions coast-to-coast.

When a new line or design of dresses or blouses is ready for merchandising, it is usually given an advance advertising build-up. Frequently this takes place over the weekend, particularly in the Sunday newspapers, with announcement that the new line will be available the following Monday. Accordingly, in order to reach both East and West Coast markets simultaneously, a limited number of each item in such a line is airfreighted to the West Coast over the weekend—usually on Friday—so that they will be on the racks Monday morning at the same time that they appear in New York. Reorders are then airshipped according to demand during the following and subsequent weeks.

Air freight thus permits a broader geographical penetration of markets in the merchandising process than is otherwise possible. Further, a manufacturer does not have to assume either the calculated risk of producing in quantity for distant markets which may not hold up to expectations, or the

(Continued on Page 21)



Accepted all over the world as the No. 1 authoritative book on air cargo . . .

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The new services will also provide connections with Airwork's transatlantic all-cargo service, so that for the first time there will be a direct all-cargo air link between Canada and the United States and Africa. (See August A. T.) It is hoped that this feature will prove attractive to shippers on both sides of the Atlantic.

A subsidiary company, Hunting-Clan African Airways, has been set up in Central Africa for the purpose of developing local air freighting in the Central African territory. This will also shortly provide a connection between East Africa and Nyasaland, Northern and Southern Rhodesia, so that through all-cargo facilities will be available from the United Kingdom to all parts of Central Africa. When the new Salisbury Airport (Kentucky) is ready, the main-line freighters will operate right through to Salisbury.

As the whole project develops, and it is possible to assess more accurately the public response to these new facilities, other territories such as the Gold Coast and Nigeria will be brought into the scheme.

Further ahead, it is hoped that traffic calls will in due course be made at airports in Europe and also in other African territories.

Bulk Cargo

The four-engined freight aircraft to be used on the Africargo services will permit the carriage of large packages and "awkward" consignments which hitherto could not be carried on the usual scheduled services. Livestock, large items of machinery, mining equipment, fragile and perishable goods can be sent with the minimum of packaging and the start at both Manchester and London will offer almost a direct "factory to customer" delivery service with a minimum of ground haulage and transshipment.

Another important point for the shipper is that uncertainties over dispatch and delivery can at last be eliminated as cargo space can be booked in advance.

The York aircraft, which will be used initially, carry cargoes of nearly six tons, so that the size of air loads is not less than those normally carried by railway wagons. In fact, bulky and cumbersome items, partially dismantled when necessary, are frequently more easily carried by air—and, of course, do not require separate component packaging or crating, which would be essential with surface transport methods.

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the past has been due to the ambitious and steady development of the mercantile marine. Whether or not we shall be able to build up a new mercantile marine of the air will depend on many things; certainly there are many problems to be solved, but providing that no opportunities are lost and that air transport companies are given reasonable freedom to develop their own routes in the most economical way so that they can give an efficient and reliable service to the public, there is no reason why this century should not see as much development in the air as the last saw on the seven seas. • • •

LET'S CONSULT

(Continued from Page 19)

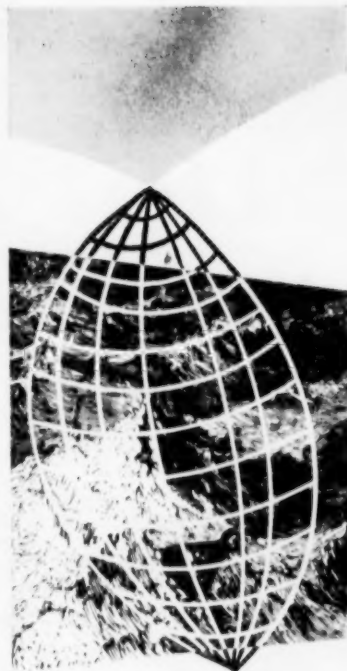
capital investment necessary for additional local manufacturing and distribution facilities. Through air freight, production can be geared closely to demand, with quantities and styles changed as required, without costly build-up of slow-moving inventories.

In today's competitive markets, merchandising has in air freight a "secret weapon" in the battle to keep an increasing volume of products moving toward people. It is a truism that *air freight begets air freight*. This arises from the fact that when a competitor starts using air freight in the distribution and merchandising of his product, the rest must follow. How this decision is made and implemented has a good deal to do with the effective use of air freight in merchandising.

As a relatively new technique in merchandising, application of air freight should be given serious consideration. Frequently it is used as a regular method of distribution for merchandising purposes, as in the case of women's ready-to-wear fashions, the optical manufacturer, or the Boston printer mentioned earlier. In such cases air freight is utilized to reach distant markets without additional capital investment or duplication of manufacturing facilities, and to keep production closely coordinated with sales and consumer demand on a continuing basis.

Air freight also has an application in merchandising promotions, and is frequently used effectively for this purpose, even when other means of transportation are used on a regular basis for normal distribution needs.

A good example was the use of air freight in the original promotions merchandising the anti-cold tablets which several drug manufacturers brought out a few years ago. In order to supply the United States market almost



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overnight, when news of this development broke in the newspapers, several manufacturers used air freight extensively to get their particular product on drug store shelves while public interest was at its peak. Once the domestic market was saturated, the manufacturers made careful plans for merchandising their products overseas, again through the use of air freight. In at least one case, an initial overseas air freight shipment was used extensively for promotion purposes because of its inherent promotion value, the bulk supply having been shipped previously by boat and warehoused ready for distribution once the merchandising promotion got under way.

Effective application of air freight in merchandising requires careful analysis of the particular merchandising and distribution problem at hand, particularly costs and competitive conditions. Sometimes effective application of air freight can be made in situations in which there is no specific "known" problem in merchandising or distribution. In such cases its application is simply a matter of applying a new technique to keep existing operations competitive and abreast of technological change.

Technical Assistance

How then does a manufacturer or distributor know whether air freight applies to his situation or not? Obviously a quick comparison of rates is far from a complete or adequate answer. To help industry make the proper application of air freight to given situations, the airlines have traditionally offered technical assistance in making the necessary studies and recommendations for implementation.

Such assistance varies from running a relatively simple cost analysis of air shipping costs (via the particular airline involved) versus other methods of shipping, to more complex and detailed studies of merchandising and distribution problems. Because of the time and cost involved, such assistance is usually available only through the larger carriers. Even then such assistance is available, necessarily, only to a limited extent, and usually in situations where sufficient traffic potential exists to justify the cost to the carrier. Further, potential shipper requirements may involve the use of several carriers, so that no one airline is in a position to meet their total requirements directly.

Traditionally, the freight forwarder, acting as a specialist in such matters at the traffic level, is in a position to provide assistance traffic-wise. But,

again, such assistance is generally sharply limited for economic reasons, since most forwarders cannot afford, on a regular basis, either the personnel or expense required for extensive creative sales and market development.

Under such conditions many firms, including airlines and freight forwarders, find it most effective and economical to utilize the services of an independent consultant who specializes in such matters. In areas in which the application of air freight can be effective, the cost of determining whether or not such application should be made, and how it can most effectively be accomplished is invariably offset by increased revenues and profits to shippers, airlines and forwarders alike.

• • •

CHEAPER TO PAY MORE

(Continued from Page 13)

growth still ahead. It may surprise the reader to know that the mushrooming, dynamic air freight business last year carried only 1/25 as many ton-miles as the electric railroads—and electric lines are supposed to be dead, or at least dying. We look to see air freight carrying 2% to 3% or more of the nation's freight ton-miles, and even that small proportion will be 50 to 75 times as much air freight volume as we have today. And it will be a volume important to industry because, wisely used, it can be an indispensable facility, backing up surface transportation or, in certain circumstances, entirely supplanting it, when you have to reach across the continent quickly to tap a new source of supply.

So far I have emphasized the value of controlled surface transportation and said little about the present and potential usefulness of air freight service in the procurement field.

Usefulness to Procurement

To what extent has distance influenced, modified, or controlled the location of facilities, the purchasing and production methods, and the marketing and service policies of companies? Many companies have far-flung sources of materials and markets to sell and serve. Distance between purchasing agent and vendor, between the former's company and its customers, between all the many facilities and people, must be something that must be taken carefully into account. It must influence and even control the management methods.

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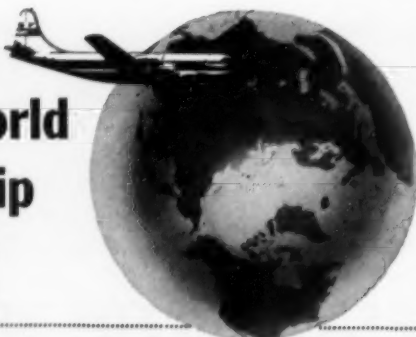
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to Cincinnati by 90%. In effect, it has shrunk the size of the United States to a span of about the old distance of Cincinnati to Rochester, New York, or Lancaster, Pennsylvania. Consider what kind of a physical and organizational layout your company would adopt—or what procurement plan you would put into effect—if you were starting from scratch to provide for national coverage and national procurement in a United States only 450 miles wide!

Of course, I am writing here in the visionary terms which have characterized too many discussions of air freight. The readers' companies would go broke in a hurry if they were to adopt this startling premise as the foundation on which to erect their enterprises. Theoretically, what I have said about the speed of transportation is true. Putting it into procurement practise is another matter, and putting it into even partial practise will take gradual adjustments. But, many of these ad-

justments have been, and are being, made. I can outline several important ways in which air freight fits naturally and economically into procurement procedures.

Before outlining them, it must be pointed out that many of our friends in business have looked upon air freight transportation as (1) a matter of immediate concern to the rate clerk and the traffic or purchasing expediter; (2) of real value only in case of unusual emergency; and (3) if used with any degree of regularity, applicable only to items of small bulk and high value. Various other uses such as substitution of air delivery for warehousing and handling costs and for reduction in inventory and a concomitant reduction in carrying costs which may amount to from 7% to 20% of value of inventory, have had little examination or analysis. I will outline those several ways in which purchasing officers may analyze their individual records and determine for themselves ways by which *planned* use of air freight can reduce expenses, net, and increase profit for their companies.

Dovetailed Flow

I have mentioned this important value of air freight—its use as an adjunct to normal controlled surface transportation.

Several great motor car manufacturers use air freight precisely in that way. These great companies run their final production lines at 20 or more assembly plants on an inventory bank of parts and sub-assemblies representing but 36 hours, or less, lead time. What they do is to extend their final assembly line schedule straight back to the vendors from whom they buy. Precise controlled transportation by train or truck from all across the United States, occasionally or frequently supplemented by air freight, is the key to this magnificent production and inventory control phenomenon. A scheduled flow of carload and truckload shipments from vendors is dovetailed into the final production schedule, so that these assembly plants receive this morning, parts and sub-assemblies used on the production line tonight or tomorrow morning. This is an outstanding use of controlled transportation as an integral and effective tool of procurement and production planning, producing economies of vast proportions. This is "sharing the stock burden" carried to the ultimate, by use of controlled transportation. And with one of these companies, total air freight charges amount to less than 3% of a total transportation bill of \$11 million a month. Have you ever con-

sidered the profit possibility in receiving all parts and materials for final assembly, selling your product immediately to dealers against sight drafts and banking your gross revenue before you pay your suppliers on terms of 2%—30 days, or better?

Thus, air freight can be, and is, used as a regular and necessary adjunct to your normally relied upon channel of low-cost surface transportation, in the event of delay by your surface carrier or in instances when your vendor gets behind schedule or finds himself in hot water during an engineering change-over.

Air Assembly

2 In the first example, we were talking about purchase orders for large quantities, with almost daily shipping schedules at volumes equal to carload or truckload lots in many instances. Not many purchase or stipulate shipping schedules in these quantities. Even with other large companies, this is so. A great mail-order chain tells us, for example, that 65% of all inbound shipments to Cincinnati stores are at weights less than 100 pounds, thus subjecting these shipments to the per cwt. rates charged by truck lines, rail forwarders, and railroads alike. Even in air freight, a 50-pound minimum rate is virtually standard among the scheduled airlines.

But some air carriers, including our company, which has a five-pound minimum charge, offer some unusual devices whereby even a one-pound shipment can travel at the per pound rate of the aggregate heavier weight of many consignments from suppliers in the same general area of origin. Air Assembly Service, we term it. And though "assembly" has the connotation of "holding for consolidation," such is not our practice, and our tariff distinctly sets the limit of "holding" shipments to those ready for pickup before 6 p.m. It is completely true, therefore, that as to light and medium weight consignments from several vendors located in areas such as Boston-Providence; or Willimantic-Hartford-Springfield-Waterbury; or Fairfield County (Connecticut)-Westchester County-New York-Newark, or in other major markets, these can move in air transportation under our Blue Ribbon Service at per pound charges which, in many circumstances, will be less than the equivalent by "cheapest air"; and, in some cases and at some individual weight combinations, the total air transportation bill will be less than if the individual shipments had moved on individual waybills by rail-express or truck or air all the way!

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In one of our cities is a great electronic manufacturer with numerous suppliers in New England and in the New York and Philadelphia metropolitan areas. For months on end, this manufacturer has computed savings of from 25% to 30% a month in his air and premium-surface transportation bills, by use of Air Assembly Service.

So, air freight, especially moved by the rating device provided in this type of Assembly Service, can reduce inventories and handling costs at a transportation cost per pound which will be little more, and many times less, than

those incurred by individual shipments moving in slower, less predictable, surface transportation.

3 Purchasing executives alert to new market and production developments and to new concepts in their own field, have begun to investigate more widely the field of controlled transportation as an area for buying greater value. The speed and efficiency of air freight, even at a premium rate, offer today's procurement executives these additional value advantages:

Sound buying has always depended upon multiple sources rather than un-

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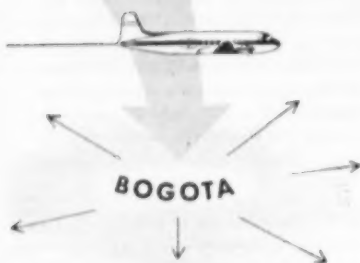
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questioned reliance on the supplier "at your own back door." As the speed and dependability of air freight continue to grow, suppliers formerly considered distant, in terms of miles, or because of inadequate surface transportation facilities, can be considered as offering overnight service. Take the case of the electronic manufacturer in St. Louis. In a day of rapid technological development and design change, this company is required to buy many components in relatively small lots. During an analysis of this manufacturer's inbound receipts—for the purpose of setting up Air Assembly Service previously referred to—notice was taken of a particular supplier in the Newark area. We knew that this vendor was in a "seller's market"; that he had to disappoint several other purchasing departments, from time to time, by his inability to make shipping schedules as ordered. Upon question, the manufacturer admitted this situation existed. We suggested that he look into another source located deep in northern New England. For a moment, our suggestion was discarded, reference being made to the inaccessibility, transportation-wise, of this supplier's plant. Upon investigation, however, not only could this more distant source provide on-time deliveries with ease, but his price was sufficiently lower to provide for virtually the full cost of precisely coordinated transportation—by Greyhound bus to Boston, where we put the shipment in the air the same evening for delivery in St. Louis the next day.

Thus, air freight can increase many times the sources of supply, and, by reason of location of certain suppliers in lower wage areas, decrease the cost of procurement materials.

Inventory Costs

4 The costs of acquiring inventory include: typing the purchase order, mailing it, distributing copies to production and inventory control and other departments, a fair share of purchasing department overhead, receiving and inspection costs, freight charges, expenses entailed in recording costs, maintaining inventory control records, paying vendors and other proper charges. Among the "others" is an expense which, in many companies, is a major charge to the cost of purchasing—the expense of expeditors, their salaries, administrative expenses attached thereto, communication charges and the like.

We like to think of one of our largest and best customers, who may be a little untypical because he is an air-

craft manufacturer in New England and his is an aircraft production problem. (You know the high-pressure atmosphere in which aircraft are produced.) Since aircraft represent an assemblage of vast numbers of parts, components and sub-assemblies, the procurement pattern in the industry is made up of many contractors, sub-contractors, and sub-sub-contractors. With a huge backlog of orders and under constant pressure for deliveries, this manufacturer works under a rigid, high-speed production schedule. Box-cars and truck-trailers flow to him on timetables expressed not only in days but hours of the day; but because these schedules are not always maintained and because some items are in constantly tight supply, he makes heavy supplementary use of air freight—not once in a while but daily. I am proud of the fact that he relies most upon our company, and even more gratified that he uses us wisely.

With several vendors in one city or area, he employs our Air Assembly Service which sharply reduces the per-pound cost of air transportation by avoiding the penalty of high minimum charges. And I am proudest of all of the fact that, due to constant reliance upon one of our special services—our Air Procurement Service—he has not a single expeditor on his payroll to check us for shipping times and delivery predictions, which we furnish his procurement people through a traffic representative attached to Purchasing.

Air Procurement

How does our Air Procurement Service operate? It's quite simple. As soon as the buyer reaches the supplier of some urgently needed material, obtains a promise of the time and date the consignment will be ready for pick-up and has routed the shipment in our service, a quick local telephone call sets Air Procurement Service in motion. An air procurement representative at the supplier's city reports on any material delay in forwarding. If on his first contact with the supplier, we are told that the supplier won't be ready in time to meet the delivery-hour target at destination, the buyer is quickly so informed. If still another delay is incurred, we refer that particular Air Procurement Order back to your buyer for his action.

Thus, air freight keeps the buyers up-to-date on the progress of his order, saves time on the part of the expeditors and buyers for their better use in keeping track of surface forwardings, and virtually eliminates such costly expenses as the telephone and telegraph

charges normally involved in expediting vendors shipping by air. Our private wire communication system, connecting all our offices, makes this unique service possible.

5 Notice, instead of a positive statement, I ask a question. We sincerely believe that there are large profit possibilities in the substitution of expensive transportation for larger-than-necessary inventories of certain items of procurement. In exactly the same vein, we also believe profoundly that costs of distribution—estimated at some 50% to 60% of the consumer's dollar—can be substantially reduced by use of higher-cost air transportation, with a marked improvement in service to purchasers, a decrease in cost of marketing and an increase in net profits. I need not remind the purchasing agent that if distribution costs are not reduced by his vendors, the things we buy will continue to include in their selling prices these excessive distribution costs.

But are the costs of procurement and production and distribution too high? Statements are frequently made that they are, but these pronouncements are not necessarily significant. We might better say that all costs are too high. But, they are only high if they can be reduced without significant loss in quality or quantity of goods consumed and services rendered.

The costs of possession and their companion costs of warehousing and handling have been a matter of extraordinary interest for some time. The disturbing factor is that manufacturers generally—including those of undoubted importance to the industrial economy—do not agree on the components to be included in the cost of carriage of inventory on the one hand, and the costs of warehousing and handling on the other.

In a recent survey, cost of carrying inventory was reported consistently at from 6% to 10%. Many economists

say such cost *should* range from 10% to 20%, while the widely-quoted estimate attributed to Parrish leans to 25%. A comparison of the last-named theory and a composite of the judgment of a number of present-day cost-accounting experts and economists is interesting:

	Parrish	1954-55 Composite
Storage25%	.50%
Insurance25	.50
Taxes50	2.00
Transportation ..	.50	.75
Handling and Distribution ...	2.50	3.25
Depreciation, de- terioration and spoilage	5.00	3.00
Interest	6.00	6.00
Obsolescence	10.00	4.00
	25.00%	20.00%

Changes in our economy over the last 20 years have probably materially

changed the values originally set by the older formula. Storage, insurance, and handling costs undoubtedly are higher and taxes (especially State levies) are much higher. On the other hand, depreciation and obsolescence are probably overstated in the older valuations. Moreover, the interest figures in either valuation may be understated in terms of inventory turn. In all events, manufacturers are interested in realigning and revaluating their individual components of cost and re-examining the effect of cost of carrying inventory in profit and loss statements.

The same lack of unanimity exists with respect to the components of warehousing and handling of inventory as exists with regard to the cost of carrying inventory. There appears to be no agreement as to what these items should be, nor as to how they should be handled. There is no common fig-

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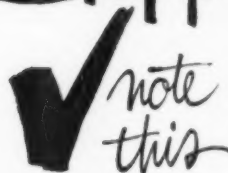
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ure, either as to the overall or as to individual components of cost.

A list of items preferred by several leading economic and lay experts appears to include these:

► Administration and supervision, including administrative salaries, general office and clerical expense, communication and related payroll insurance and taxes.

► Clerical expense, including salaries, office supplies and related payroll insurance and taxes.

► Direct wages for labor of handling, packing, shipping and receiving and related payroll insurance and taxes.

► Building occupancy, including rent, taxes, insurance, repairs and maintenance, depreciation, storage charges, utilities, elevator expense, janitor supplies and janitors' and watchmen's wages, and related payroll insurance taxes.

► Packing and shipping supplies; including labels.

► Spoilage and breakage.

► Insurance and taxes on all finished goods in inventory.

► Materials handling equipment costs, including taxes, insurance, maintenance and depreciation.

► Miscellaneous expenses, including outside services, refrigeration supplies, equipment costs and transportation expense in and out, expenses involved in taking inventory.

What the sum of these items may be in terms of percent of net sales of various types of manufactured goods seems to vary considerably. One earlier survey* indicated for a substantial number of corporations a range in warehousing costs at that time of from .34% for tobacco products to 4.29% for petroleum products.



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A number of the components of warehousing cost have increased in percent of the base of net sales in the last 14 years. It therefore appears that warehousing and handling costs, leaving out any duplication of components contained in the cost of carriage of inventory—the cost of possession—may average from 8% to 10% of net value of inventory handled.

We hope that more precise estimates of warehousing and handling charges, as well as modern costs of carriage of inventory, may be pinpointed by an important research project presently under way.

Research Study

This research study is being conducted by Harvard University Graduate School of Business Administration, under the leadership of Howard T. Lewis, professor of marketing and chairman of the board, *Harvard Business Review*. Our company is largely sponsoring this important study. (See *August, 1954, AT.*) For the past two years, detailed interviews have been conducted by Professor Lewis and his research associate, Jack D. Steele, with many companies of various sizes, locations, and types of manufacture. Comprehensive data has been collected to the end that the major purpose of the research project may be achieved: *To find a method of analysis whereby an actual or potential user of air freight may arrive at a decision as to when this method is the most economical for him to use.* More specifically, the approach has been that of a thorough reexamination of the commonly held assumption that "premium" freight is to be avoided wherever possible.

As a general principle, this assumption is sound *when properly interpreted*. However, it is sound only when applied to any method of transport, including air freight. On any other assumption, a company's pattern of procurement and sales coverage, geographically speaking, is based on an incomplete analysis covering only rail, truck, and water possibilities; furthermore, even within this restricted range, conclusions are likely to be based upon a comparison of transportation rates only, rather than a broad understanding of the relation between rapid transportation on the one hand, and of inventory, packaging, and warehouse service and cost, on the other.

A sound conclusion based on this broader concept may well involve, so far as any individual company is concerned, a reexamination of its entire procurement policy—and its distribution policy as well. The use of air

freight, based upon an analysis item by item (or classes of items) may make possible definite procurement economies, resulting from new sources of supply, increased competition by suppliers as to service and price, and lower inventory of procurement materials. Insofar as such procurement economies do result, a "premium" rate may not be at all excessive. In any event, before so classifying them, a new, modern reconciliation of all the cost factors involved is clearly called for.

The impact of speed in directions other than use of air freight has been given considerable consideration by top management. The use of radio, television and other high-speed communication systems has been given far greater consideration; the place of such devices as digital computers in the assembly, recording, and interpretation of data and the significance of the auto and airplane on the movements and geographical distribution of our population—these are subjects of careful study. The same cannot be said, so far as top management is concerned, of the interrelation of all of these with the speedier movement of goods.

Weighing Costs

Even when weighing alternative methods of transportation, the executive who carefully weighs the cost of freight transportation via truck, rail or water, in most cases stops short of even considering the next logical medium—air—except for emergencies.

Not always has this been true. One of the most interesting experiences of my relatively short experience in air freight transportation was a conversation two years ago with the purchasing officer and traffic manager of a company of medium size on the West Coast. They were vitally interested in air cargo transportation. The procurement executive had made a detailed study, first item by item, then by classes of items, of the detailed expenses of the costs of possession and the costs of warehousing and handling of a substantial part of his procurement inventory. He told me that, to his and his top management's complete satisfaction, his analysis plainly indicated that 8% of all items of procurement by number, representing 30% of total dollar volume purchased, should be transported exclusively by air—and had been for some time—resulting in a reduction in inventory of these items of more than 80% and a demonstrable increase in net profit. I might add, as

* **Distribution Costs**—McNair, Telle and Mulhearn: Harvard Business School, Division of Research, 1941.

to that high percentage of reduction of inventory, our friend somewhat amusingly admitted that management's previous instruction had been to have the much too usual "90 days" inventory" on hand, at all times, prior to his excellent analysis.

Following that refreshing experience in California, we heard from still another advocate of our theory—this time the manager of materials (he handles all functions of purchasing, inventory control, and traffic) of a larger company in an important Midwestern city. He, too, had analyzed his procurement items and, by classification, had determined that some 22% of dollar volume of items purchased, representing 38% of number of items also should be kept to a minimum of inventory by the use of air freight as an adjunct to controlled surface transportation as to suppliers within 500 miles; and as a supplement to surface transportation to suppliers at greater distances.

These hints, and that's all they were, that proper analysis and reexamination of a company's whole procurement policy might lead to a more intelligent and profitable use of air transportation gave our company considerable encouragement. As additional confirmations were unearthed, it became evident that a study of the whole field should be undertaken by a responsible and unbiased institution. Accordingly, our president decided personally to interest the Business School in conducting the project; and, following the receipt of Harvard's preliminary report in July, 1954, we decided to absorb the lion's share of the cost of the final study during 1954 and 1955.

Method of Analysis?

We believe that we have something of value in this Harvard project. We are virtually certain that it will outline a sound method of analysis whereby business executives may determine whether their procurement and transportation procedures should be reevaluated to the end that the cost of possession of inventory and the cost of warehousing and handling it can be reduced substantially by a modest increase in transportation charges, while making a larger profit in so doing.

In summary, I suggest that a re-examination and reevaluation of the procurement practices of my readers' companies might well lead to some large economies by the purchase and use of controlled transportation. I further suggest that air freight transportation, either as an adjunct to or, in many cases a supplement to, controlled surface transportation, may have many

valuable uses in actual reduction of minimum weight transportation charges, in reduction of the costs of acquisition and the possession of inventory, in widening the sources of supply and, by competitive action, in reducing the prices of materials, and in maintaining production schedules in the event of a delay by the surface carrier or in instances when the vendor gets behind in his deliveries. • • •

GROWTH & PROSPERITY

(Continued from Page 17)

man may find that the company airplane is not always available when he needs it—so he turns to the airlines. And to top it off, the businessman uses the commercial airlines for his personal trips. One company has reported that when it bought its first business plane in 1945, it had 25 airline travel cards issued to its employees. It now has over 300, and airline travel by company employees is up over 700%.

Last year our Bureau of Aviation published a survey which it had conducted on business aircraft in New York State. Let me quote what we found concerning the effect of business aircraft on the use of commercial airlines. The report states:

"Ownership of airplanes by no means removes a company from the customer list of commercial airlines. There were 82 firms that answered a question on company use of airlines since acquiring a plane, and only 22 of these said that their patronage of airlines had declined. Almost half the companies—35—thought that company ownership of a plane had neither diminished nor increased their purchases of commercial plane transportation; and 25 companies—three-tenths of the total—used airlines more since acquisition of their own plane than previously. The conclusion might be drawn that increased air-consciousness in such firms, produced by availability of a company plane leads to more new demand for air travel than the company plane can accommodate.

"Other surveys have come up with the same answer. So, you can see that the business plane is actually a good sales producer for the airlines.

"And what of the utility to the company owning the plane? The Bureau of Aviation survey found that more than seven out of every eight firms reported that the use of company-operated aircraft has resulted in increased productive time of key personnel. A majority noted that their market coverage was increased. Nearly half of the

firms said travel expenses had been reduced as a result of operating their own aircraft, while a third claimed no reduction—and another third failed to answer the question. They are as yet undecided as to whether their business planes are less expensive to operate. Other benefits credited to their aircraft were expediting emergency delivery of materials, added good will, increased customer service, expediting transportation of personnel to meet peak requirements, improved advertising and increased ability to meet "pipeline emergencies."

The Bureau of Aviation survey found that 59% of the companies owning aircraft were manufacturers; 10% retail establishments; 7% were engaged in construction; 7% in finance, insurance and real estate; 5% wholesale business; 5% business services, such as advertising; 4% transportation; 2% hotels and amusements, and 1% miscellaneous.

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Almost every type of commercial aircraft is used by American companies to help in running their businesses. They range in size from single-engine two seaters to four-engine transports. Amphibious planes and helicopters are also employed. And even certain types of military aircraft have been converted for use.

In general, the choice of type of aircraft depends upon the use to which it will be put. When flights are short, passengers generally few, and postponement is possible in the event of unfavorable weather, companies usually operate small planes. But other companies, which shuttle large groups of executives from coast-to-coast or overseas, require fast, long-range, multi-engine airplanes. When the urgent nature of a company's business requires flying in inclement weather or at night, planes are needed that can carry essential navigation and communication equipment. And, of course, the ever-present factors of cost and personal preference help determine the type of aircraft which a company will fly.

Company Aircraft

In one upstate New York area there are examples of the various types of company aircraft owned. Home Mutual Fire Insurance Company operates a Navion, a single-engine, four-place plane. Binghamton Container Company has a twin-engine Grumman. Link Aeronautical Corporation has a fleet of four—an amphibious twin engine Grumman, two Super-Widgeon Grummans, and a Twin Beech. Endicott-Johnson Corporation operates a twin-engine Aero Commander. IBM has two six-place Aero Commanders and one 21-place twin-engine DC-3.

Although the average executive plane covered in our survey carried eight persons including the pilot, the largest single group of planes was that of the single-engine four-place aircraft. Nearly one out of every three company-operated aircraft is in this four-place class. The second largest group was made up of the twin-engine 10-place planes, with one-sixth of the total reported.

As a general rule for economical utilization, a business airplane should be operated from 400 to 600 hours per year, or more. When an airplane sits idle on the ground for days at a time, just to be at the beck and call of the senior company official, while other staff members use other means of transportation, the undesirable effect upon operating costs is obvious. The principle of high utilization for econ-

omy is startlingly clear when costs are plotted on a graph. The cost per flight hour and passenger-mile per year curves sharply downward from 100 to 400 hours per year, levels out gradually from 400 to 700 hours, and is almost straight from 700 to 1,000 hours. Capacity also affects costs because the large planes use more fuel, require more maintenance, and frequently carry larger crews than the small aircraft. In studies made by the National Industrial Conference Board, Inc., companies reported costs ranging from \$18 per flight hour for a Beech Bonanza to more than \$380 per flight hour for a converted wartime B-23.

Pilots for these business planes are obtained from four main sources: military service, commercial airlines, aircraft operations of other companies, and employees with a pilot's license.

Two types of qualifications are sought when hiring men to pilot company aircraft. Primarily, of course, the prospective pilot must possess the required CAA certificate, meet the CAA physical standards and have the technical training and ability to fly company planes in a safe, efficient manner. Beyond that, however, most companies have also set rigid standards upon the personality characteristics of their pilots, because these personal traits can affect the type of service and even the safety of the airplane operation. When an airplane is in the air, the lives of the passengers are literally in the hands of the pilot. Recognizing this, companies stress that they hire only sober, safety-minded individuals with a sense of responsibility. In addition to safety-mindedness, many companies state that they seek pilots who will be treated with respect by the executives they will fly. Since there frequently is intimate contact between the pilot and passengers, both in the air and on the ground, companies look for qualities of "reserve" and "discretion" in prospective pilots. Honesty and personal integrity are also sought in company pilots because of the large sums of money that are spent by the pilots in connection with the airplane operation.

Pilot an Executive

A business aircraft pilot is an executive. In hundreds of cases he runs a one-man airline. He is his own dispatcher, radio operator, weather forecaster, director of service and maintenance, steward, and public relations man. Frequently, he is the official or unofficial salesman of his company's products, as well as a confidant of the top executives. He is depended upon

for swift, comfortable, and safe transportation to on and off airways localities around the nation.

In some companies, members of the staff are qualified pilots and serve in this capacity in conjunction with their other duties. One such instance is Permatex Company, Inc. of Brooklyn. C. A. Benoit, Jr., president of the company, and O. B. Whitmore, sales manager of the aviation division, both act as company pilots. The company manufactures maintenance and production chemicals sold mainly to the automotive, industrial, and aviation trades. With customers nationwide, salesmen in every state, 10 distributing warehouses coast-to-coast, a manufacturing plant in Brooklyn and another in Kansas City, the firm needed fast mobile transportation to supplement scheduled commercial service. (Read *Portrait of a Modern Executive* in December, 1954 A.T.)

Successful Use

In 1947, the company bought its first aircraft, a single-engine plane with a full instrument flight panel. Over the years the plane has been replaced twice. When plans were formed to build a manufacturing plant in Kansas City, it became evident that longer, more frequent trips were in order. To save essential time much of this flying would be in marginal weather. Study of the problem led to the purchase of a twin-engine Aero Commander.

Mr. Benoit says:

"On an out-of-pocket cash basis, contrasting our average per person carried cost with any other mode of first class commercial travel our airplanes have made us money. But that is not the most important angle of its economics. More important is mobility within time limits. Our planes have been sharp business tools."

Business aircraft are generally associated with large corporations earning gross profits in the millions each year. Too little has been said about how the small corporations utilize airplanes and what their use has contributed toward business growth and prosperity. Let me give you the history on one relatively new company that started in a small way.

This company was established to produce fine pitch gears in 1946. In 1951, when there were only 35 employees on the payroll and physical assets amounted to about \$125,000, the company purchased its first plane, a single engine Navion. Within 30 days after the purchase the firm's business backlog multiplied from \$30,000 to \$300,000, and currently the figure is

placed at a healthy \$3,000,000. In addition the number of employees has tripled. Perhaps the most surprising is the fact that only 30% of the company's business is defense production.

Later, a twin-engine Beech was added to further extend business and more recently a twin Lodestar. Although a sizable financial investment is represented in the three airplanes, the company points out that its annual operating costs run less than 25% on the earned dollar, and executives are of the opinion that this is a low expense for the returns received.

Full credit for the tremendous growth and prosperity of the organization in the last few years is attributed to the use of aircraft. Corporation executives and salesmen, because of their ability to go where they wanted to when they wanted to with a minimum of delay, were able to tap the national market for their products.

Some small companies own and use business planes jointly. Some are constant users of charter service for business purposes. Several firms in Norwich, New York (population, 9,000) are a good example of this latter type. The operator of the airport started his

charter business in 1947 by interesting businessmen in quick, convenient trips to points where they wished to go. Starting with an occasional trip in 1947, the charter business in that little town has grown and grown. In 1950, chartered planes flew 100,000 passenger-miles, and in 1954, 750,000 passenger-miles.

With owners of present business-aircraft spending in excess of \$400 million to operate and maintain their aircraft and to cover salaries and insurance, a fleet of the size anticipated in the next decade probably would call for similar expenditures in the neighborhood of \$1 billion.

Usually it is the initial cost of buying a plane, hiring a qualified pilot, and defraying the operation costs, that keeps a firm from entering this field. Information on all of these problems can be obtained from operators at local airports, and usually companies operating planes are glad to share their experience with others. The National Industrial Conference Board, Inc., 247 Park Ave., New York City, has published an excellent manual covering all of these points—*Managing Company Airplanes*. • • •

CAB

(Continued from Page 10)

clared that the principle of interchange is the solution to a great many problems. Furthermore, National's cargo chief asserted, the current record shows that international cargo received today by National is in Pan Am's possession the following day.

Asked by AIR TRANSPORTATION for comment, Richard W. Gilbert, Eastern Air Lines director of cargo, stated:

"Eastern Air Lines provides a substantial cargo service on the East Coast. At the height of the season, it provides a minimum of 60,000 pounds of cargo airlift daily out of New York alone to Miami in combination aircraft. In addition three or more daily Speedpak schedules are operated from New York to Miami as part of a vast network of Speedpak schedules throughout our system.

"Speedpaks may carry up to 8,000 pounds, although their load is usually between 2,500 and 4,000 pounds per flight. They carry such voluminous pieces of cargo as human remains, cases of propeller blades, TV sets, display materials, truck tires, and window frames for homes. The Speedpak will also carry pieces of unusual weight; for example, the average human remains shipment is about 450 pounds, but we may even handle motors, machine parts, and drive-shafts that may be as high as 3,700 pounds per piece. One geological display included a 4,800-pound piece.

"On the question of accommodation of shipment due to their weights, it has been brought out that the average shipment between New York and Miami is 111 pounds. This is very close to the average weight of shipments handled by Eastern. Eastern regularly handles large and small

shipments, but the average is a little better than 100 pounds.

"Eastern's cargo service on the East Coast is not only substantially in the amount of daily poundage that it can accommodate, including shipments and pieces of unusual size and weight, but it also provides a schedule frequency exceeded by none presently operated or proposed. In addition, Eastern provides a cargo service from all the major cargo producing cities on the East Coast including Boston, New York, Philadelphia, Baltimore, and Washington.

"I believe that cargo service on the East Coast is very adequate and firmly do not believe that additional cargo services are required and in the public interest. Nevertheless, the North-South Air Freight Certificate Renewal Case is in progress where I believe that matter should be properly decided.

"Eastern believes in the future of air cargo and intends to keep ahead of that progress in service and equipment in the interest of an orderly development of that service for the public and for aviation. We do not believe that the commercial cargo airplane is flying today that is feasible from a cargo-handling and accommodation point of view as well as operational costs, particularly for the type of operation required in North-South cargo service. Progress is being made in the development of cargo airplanes by the air frame manufacturers, and I believe the day is not in the too distant future that satisfactory cargo aircraft will be available for commercial use; and when they are, Eastern will purchase such aircraft and take the leadership similar to what they have done with the combination passenger-cargo aircraft."

The CAB has approved an agreement for equipment interchange between East-

ern Air Lines and Braniff International Airways which would provide for the first time through service between New York and Balboa and many points in South America. The Eastern-Braniff pact makes possible one-plane service from New York-Newark over Eastern's route to Miami, continuing from the latter point over Braniff's route, terminating at Balboa and points south.

The certificate of public convenience and necessity of Trans-Pacific Airlines, intra-Hawaii carrier, has been renewed for a temporary period ending December 31, 1959.

Transocean Air Lines has requested immediate exemption to operate global charter and special services supplementing the scheduled airlines. Requested exemption is for a minimum of five years or until its long-sought certification.

Commercial Aircraft

Boeing has taken the first step in certification of America's first jet transport for commercial airline operations. Its application has been submitted to the Civil Aeronautics Administration for a type certificate. The prototype 7-7 jet *Stratoliner* accumulated 193 flight hours in 127 flights during the past year. Results, according to Wellwood E. Beall, Boeing senior vice president, were "highly satisfactory." In an earlier statement, William M. Allen, president, pointed out that his company had been working closely with the airlines since the jet transport project began five years ago.

"The 707 prototype and the commercial jet *Stratoliner* evolved from it may embrace many of the ideas developed in our consultations with the operators," he said. "We have indicated to the airlines that we could deliver aircraft on a basis which would permit start of scheduled operations early in 1959. Our practical experience with the prototype . . . and our production of well over 1,000 multi-jet aircraft, are factors of particular interest to our potential airline customers."

The four-jet, swept-wing transport will be of 80- to 135-passenger capacity. Speed will approximate 550 miles per hour. It will be capable of non-stop transcontinental and transoceanic operation.

A fourth DC-6A has been added to the Flying Tiger Line's airfreighter fleet. The plane was leased from the Navy.

Delta-C&S Air Lines has ordered six more DC-7s. Delivery will begin in 1957. The airline now has a total of 11 such transports on order. The first one is expected to join Delta's fleet early this Fall. Delta currently operates 10 DC-7s.

Henri J. Lesieur, Air France general manager for the North, Central American and Caribbean Division, recently announced the receipt of its first *Lockheed Super G Constellation*, first of a fleet of 10 such planes ordered by the airline.

Fairchild is planning a light jet transport capable of cruising at 560 miles per hour. It is specifically designed to meet industrial executive transport requirements, as well as military requirements. Designated the M-225, it will carry a crew of two and seven passengers.

Within a period of 48 hours, Lockheed received orders for seven *Super Constellation* airfreighters—five for Slick Airways and two for Seaboard & Western Airlines. The new orders are for Lockheed's newest Model 1049H. They represent an \$11 mil-

lion investment (including spares) for Slick, and \$4 million for Seaboard. Both all-cargo carriers will begin receiving the new equipment in January, 1957. Slick currently operates a fleet of 23 cargoplanes (three DC-6As, one of which is leased from the Navy; three DC-4s; 17 C-46s).

Seaboard already operates four *Super Connies* in addition to six DC-4s.

Congratulations

United States Airlines

ASA: M. K. Williams appointed superintendent of stations.

Allegheny: Jack K. Svitzer named director of sales.

American: Nelson Lee Smith elected to the position of vice president-economics.

Braniff: Stephen J. Facko appointed assistant cargo manager in the Dallas area.

Northwest: Donald Herron named district sales manager at Cleveland.

Riddle: John M. Hughes appointed director of military operations.

TACA: Benjamin A. Mann, Jr., named regional sales representative in the Midwest.

TWA: Ralph S. Damon, president, awarded the American Society of Mechanical Engineers Spirit of St. Louis medal "for meritorious service in the field of aeronautics" . . . John E. Murphy promoted to district operations manager at Gander.

United: William F. Spence appointed city sales manager at South Bend . . . Charles L. Vaudrey named purchasing manager.

Western: Edward L. Hallgren appointed director of customer relations.

Foreign Airlines

Airwork Atlantic: Ralph A. Trankina appointed district sales manager in Chicago.

BOAC: H. M. Clarke appointed sales planning and tariffs manager, North America.

Iberia: Julio San Gabriel, former station manager at Idlewild, elevated to United States sales manager.

Japan: Jitsuro Kobayashi named assistant to the general manager in San Francisco . . . Robert M. Cann (ex-Philippine and United) name city sales manager in Chicago . . . Robert T. Schaefer (ex-American) appointed cargo sales representative in New York.



du Vivier

ing . . . William G. Key named director of public relations.

Sabena: D. Le Roy du Vivier named general manager for North America.

Swissair: William D. Lantz (ex-LAV) appointed cargo sales representative.

Aircraft

Fairchild: Warren R. Smith appointed director of advertising . . . William G. Key named director of public relations.

Piasecki: Walter D. Peck (ex-CAB) appointed export manager.

Government

CAB: R. Vernon Radcliffe appointed associate director of the Bureau of Air Operations . . . Mervyn F. Bagan named assistant to CAB Member Harmer D. Denny.

Companies

Gould-National Batteries Inc.: Layne Martin and Melvin G. Kelly appointed to the respective posts of general traffic manager and traffic manager.

Facts and Figures

United States Airlines

American: Freight traffic in June was up 28.5% over the same month a year ago. Ton-miles topped the 6,000,000 figure.

Braniff: Freight ton-miles increased 14% and express ton-miles 12% for the first half of 1955.

Flying Tiger: Biggest June freight business in company history is reported. Revenues totaled \$641,000 as against \$389,000 a year ago. Contract division also smashed records, compiling revenues of \$1,431,000.

Pan American: Cargo flown between the United States and Europe jumped 39% during the January-June period, as compared to the same period last year. United States-Latin America cargo ton-miles flown in the first half leaped 57% over the January-June, 1954 period.

Seaboard & Western: An increase of 41% over the first half of 1954 was registered at the end of the first half this year . . . Second-quarter earnings hit a new high for the company, reporting \$369,000 after taxes, equal to 62¢ a share for the three months. The comparable quarter a year ago showed a loss of \$141,000.

United: Net income after taxes for the second quarter was \$3,806,279, equal to \$1.39 per share. Last year's total for the comparable period was \$3,542,677 (\$1.34 per share).

Foreign Airlines

Airwork Atlantic: During the four-week June 25-July 16 period, a total of 104,000 pounds of freight was hauled across the Atlantic. This represented 58% of the freight flown on all transatlantic all-cargo flights—142,900 pounds.

BOAC: A profit of \$442,000 greater than for the corresponding period a year ago, is reported for the fiscal quarter ended June 30.

KLM: A systemwide total of 25,831,000 ton-kilometers of freight was recorded for the first half. (Contrast this with the total of 2,565,000 ton-kilometers flown during the whole of 1946, first complete post-war year.)

Swissair: First six-month freight total for the network is 3,786,778 ton-kilometers, which represents a rise of 37% over last year's January-June figure. The transatlantic service showed an improvement in freight carriage amounting to 56%.

Trans-Canada: An increase of 15% in freight flown on all routes during the

first half of 1955, has been chalked up. A total of 9,367,641 pounds was recorded in contrast to the 1954 first-half total of 8,126,199 pounds. The commodity which moved in the greatest volume (1,313,578 pounds) was textiles and wearing apparel—principally bolts of cloth from New York and England.

Interline

United-Airwork Swissair: Agreement has been signed effecting advance bookings of through freight on connecting flights, with only a single cargo waybill necessary. United has similar pacts with Pan Am, KLM, Sabena, and Qantas.

Varig: The Brazilian carrier has signed interline pacts with 45 United States and foreign airlines. Seventeen of the agreements are with IATA-member airlines; the balance with United States local carriers.

Flying Tiger-Lufthansa/LAI/Varig: Joint and through rates over the Tigers' domestic freight system and the three foreign carriers now available.

New Offices

SAS

Los Angeles: A new freight office at Los Angeles International Airport; under direction of John McNamee, air cargo supervisor.

WESTERN AIR LINES

Calgary, Alberta, Canada: Anglo-American Building; under direction of Fred Colborne.

Services

Capital: *Viscount* non-stop flights between Washington, D. C., and Chicago have been increased to four daily.

Japan: The airline has scheduled another flight between Japan and Brazil for Thursday, September 29. This is the third flight for the Japanese carrier on this route. Two more Japan-Brazil flights will be operated, one in December, 1955, and the other in March, 1956. Route is Tokyo-San Francisco-New Orleans-Caracas-Belem-Rio de Janeiro-Sao Paulo.

Trans-Canada: Turboprop *Viscounts* have been placed in service on the Montreal-New York route.

Western: Scheduled service linking Sioux Falls with key cities in 12 Western States and Canada was recently inaugurated.

Next month Pan Am will inaugurate nonstop flights between New York and Ciudad Trujillo. The airline will open with three roundtrippers a week. Flying time between both points will be reduced from nine to six hours.

Military Transport

The first of a new fleet of Lockheed *Super Constellation* military transports, designated C-121C, has gone into flight (Concluded on Page 34)



The numbered paragraphs below correspond with the numbers appearing in the coupon in this department. To order one or more pieces of literature, or other types of materials, at *absolutely no charge to you or your firm*, just encircle the corresponding number in the coupon, fill in the required information, and mail it in. *Air Transportation* will do the rest of the job.

1 A new catalog which highlights various applications of cushion pads and blankets where shock, abrasion, marring, freezing, or dust presents a shipping or warehouse problem.

2 *How to Enter Canada*, a valuable little booklet which provides complete information for visitors to that country.

3 Is your company plane planning a business flight to Canada? You'll want to have this informative booklet, *Admission of Aircraft to Canada*. Includes regulations, airports, map, etc.

4 Groups are invited to borrow KLM Royal Dutch Airlines' newest color film, *Meet the People*, which required more than 77,500 miles of air travel to produce. It tells the story of the importance of each KLM employee's role in running the world-wide airline.

5 Here's a new eight-page catalog illustrating and describing Elwell-Parker's line of fork trucks, high- and low-lift platform trucks, and crane trucks.

6 New bulletin describing and illustrating the Yale Warehouse Electric Truck with Extend-a-Forks.

7 A comprehensive 64-page catalog illustrating and describing Hamilton's complete line of hand trucks, dollies, platform trucks, skids, etc. Includes full technical data and specifications.

8 Streamline your office operations. Here's an interesting booklet providing full information on a small folding electric machine which will free your employees for more important work.

9 Interesting case histories are featured in the latest issue of *Material Handling News*. All well illustrated.

10 Samples and price list of pressure sensitive paper adhesive tapes.

11 A handsome brochure describing the engineering and manufacturing facilities of Air Associates, Inc. Should be of interest to executive aircraft owners and operators.

12 *Facts About Fork Trucks—The Gas vs. Electric Question*, an interesting folder which presents an objective study of the capabilities of gasoline- and electric-powered fork trucks operating under normal conditions.

13 Information on a recently developed system which prevents jam-up of moving packages by guiding them from two merging conveyor lines into a single forward moving line.

14 Details on a new marking pencil which will write on any wet, dry or frozen surface, glossy, delicate and soft or rough, painted and coarse.

15 Descriptive literature on a complete line of hand trucks and accessories, including newly developed items.

16 Literature on a new retractable position lock for casters trucks which the maker claims will allow 200% more ground clearance.

17 What Can Go by "AO," a colorful folder describing how to save by air-mailing "articles other than letters and postcards." International shippers will want to read this.

18 Operating data and specifications of the 12,000-pound capacity Hyster RT-120 fork lift truck.

19 Got packing problems? Write for literature on steel strapping and steel strapping equipment.

20 Descriptive brochures covering all aspects of the new Yale K-46 electric, stand-up, hydraulic lift truck.

21 Record-conscious shippers and traffic departments will want to read the brochure, *Break Through Your Cost Barrier*, which shows how vital reports are speeded and valuable time of personnel is saved.

22 Booklet on a system designed to move industrial trucks smoothly over any selected path, linking receiving, storage, sorting and shipping operations with an orderly flow of traffic.

23 Complete details on a hand truck suitable for all light-duty work. Capacity of truck is 1,500 pounds.

24 Information on a new light-weight gravity wheel strip conveyor which can handle an extensive range of materials.

25 Information on an improved-type one-hand dispenser for all pressure-sensitive tapes.

26 Here's a new bulletin describing and illustrating the 6,000-pound capacity Mercury Model 630 sit-down, center control fork truck.

New Items This Month

It is the policy of the editors to retain each Come 'n Get It item for a period of three months.

The items added this month are numbers 23 to 33 inclusive, and 120 to 132 inclusive.

27 New all-freight schedules of the Flying Tiger Line.

28 *How's Your Air View IQ?* is an interesting booklet containing aerial photos of a number of United States cities, coupled with some arguments on why to use air express.

29 Descriptive material on the Barrett Model TTF-20 Hi-Lift walking-type telescopic tilting fork truck, designed for the economical moving and storing of pallet loads.

30 How to get an extra dividend from the money you spend on your postage will be found in the helpful and interesting handbook, *Guide to Postmark Advertising*.

31 Here's a four-page illustrated bulletin which shows the features and uses of one manufacturer's overhead trolley conveyors.

32 Now available is an interesting broadside which provides 24 cost-cutting ideas with industrial trucks, taken from all major industries. Standard-type and specially designed models are covered.

33 Are you thinking of adding a lift truck to your materials handling equipment? You may want to consult the reprint, *How to Select a Lift Truck*.

89 Complete details on a new line of hand trucks designed to move smoothly up and down stairs without damaging them. These trucks can handle cases, crates, cartons, kegs, bags, drums, and barrels.

90 The American Material Handling Society will furnish information on its own operations to any reader interested in the organization's work.

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89	90	91	92	93	94	95	96	97	98	■
100	101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120	121
122	123	124	125	126	127	128	129	130	131	132

91 Here's a new folder which provides a highly informative analysis of the pros and cons of industrial truck leasing, including effects on working capital, tax considerations, lease as a hedge against inflation, write-offs in big profit years, short-term requirements, etc.

92 *Ten Reasons Why People Fly*—an excellent, illustrated booklet produced by Northwest Orient Airlines. The business air traveler will find this interesting.

93 Every businessman is vitally interested in better mail service. Write for the interesting, informative booklet, *Today's Experiment in Better Postal Service*.

94 Now available is the new 1955 catalogue of materials handling equipment produced by the Federal Fibre Corporation. Includes trucks, boxes, etc.

95 Free for borrowing—a 22-minute color film produced by Sabena Belgian World Airlines, *Beautiful Belgium*. Covers all of that country's historic cities and their points of interest.

96 Here's another Sabena film—*The Helicopter Goes to Town*—26 minutes long. Sabena, which operates the world's only international helicopter service, highlights its unique operation which has linked Belgium, Holland, France, and West Germany by helicopter. May be borrowed.

97 We recommend this valuable little booklet—*How to Merchandise with Corrugated Boxes*. Executives take note.

98 Of course, you want to cut shipping costs. Here's one important way. You'll find it by reading, *How to Cut Costs in Your Shipping Room*. It's an easy-to-read, illustrated booklet.

100 Relaxing from those business pressures? Is Canada on your visiting list? If so, you will want to read *Canada—Vacations Unlimited*.

101 The British-made *Viascous* is a newcomer to the skies over the United States. We recommend the interesting booklet, *Tinkering with the Turbine*. You'll like it.

102 What are the advantages of liquefied petroleum gas power for industrial fork lift trucks? This brochure will give you the why and wherefore.

103 *How to Make Your Shipping Dollars Go Further*, a descriptive brochure on the subject of shipping tapes.

104 *How to Cut Costs*, an illustrated booklet on how shippers can save money through the proper use of the right gummed sealing tape.

105 Shipping to Latin America? Write for a descriptive brochure on ASA International Airlines' all-cargo service.

106 *Export Packing*, a guide to proper application of nailed wooden containers for overseas shipments. Does not apply, in most cases, to air shipments.

107 Do you use the Post Office services for some of your shipments? Ask for this humorous though informative folder, *Pictoons for People Who Mail Packages*.

108 Perhaps your business or civic group would like to borrow TWA's popular film, *Air Adventure to Europe*.

109 *Your Employees' Time is Too Valuable to Waste*, an informative new booklet showing how to save time and money on counting and marking various paper forms.

110 Here's a new 16-page catalog showing the entire line of one manufacturer's conveying equipment.

111 Cargo Memorandum Tariff No. 1 of Airwork Atlantic, scheduled transatlantic airfreight carrier.

112 New Air Express Memorandum Tariff, providing rate schedule from the airport that serves your community to all U. S. airport cities.

113 Here's a new and valuable combination time calculator and converter of years to dollars. Disc-shaped, this gadget will not only provide an automatic method of showing the standard

times in capitals throughout the world, but also automatically converts the currencies of Japan and the United States.

114 *Uncle Sam's Best Buy* is an interesting booklet which shows how the scheduled airlines of the United States are serving the country's commerce, postal service, and the national defense.

115 This enjoyable as well as informative folder titled, *Biggest Buys in History*, will give you the low-down on the value of air express to the shipper.

116 Air Freight Memorandum Tariff of Inter-Maritime Forwarding Company, Inc.

117 Air Freight Memorandum Tariff of Haniel, Bruckman, and Lorbacher, Inc.

118 Readers interested in foreign trade and foreign travel will want to have a copy of this valuable folder, *Official Money and Exchange Rates*.

119 Descriptive leaflet on the Ideal Quarter, 34-inch stencil cutting machine which assures parallel lines and positive character and word spacing.

120 *Package Laboratory News*, an eight-page booklet illustrating a variety of outstanding packaging jobs.

121 Interested groups may wish to borrow one or more of five interesting 16 mm. color films. Titles: *Along Japan's Highway*; *Holiday in Japan*; *Gateway to Japan*; *Kimono*; *Colorful Nikko*.

122 The 1955 *New York State Airport Map and Directory*, showing 263 landing facilities and 799 air-marked communities.

SLICK TRUCKER AGENTS

(Continued from Page 5)

has risen to 50 since the beginning of the year, it was reported. These agents serve a radius of from 150 to 200 miles from each Slick terminal.

The general trend toward decentralization of industry has prompted the air cargo line's increasing reliance on its truck agents who regularly service the outlying plants.

Pan Am Saves Money For Shippers of Furniture

MIAMI—Shippers of household furniture between the United States and Latin America are being given the benefit of a warehousing scheme introduced by Pan American World Airways.

Domestic goods freighted to Miami in transit to or from Latin America via Pan Am's cargo service will be warehoused at the airport up to 30 days—at no extra cost to the shipper—until forwarding instructions are received from consignees. In addition to a saving in warehousing costs, shipper also saves such ocean shipping fees as wharfage, handling, and extra crating.

Swissair Cargo Planes Haul Aircraft Freight

NEW YORK—Since the beginning of the year, Swissair has "piggybacked" a total of 11 complete light aircraft in its DC-4 airfreighters. The Swiss carrier's cargo handlers have become especially adept at loading this type of bulky freight.

123 The 1955 edition of the *Pennsylvania Aeronautical Chart*, featuring Omni Stations and Airways.

124 Here's a new eight-page brochure illustrating and describing the application of the steel strapping equipment and accessory items of one manufacturer.

125 Air Cargo Memorandum Tariff of Sabena Belgian World Airlines.

126 Enlightening area study on Ecuador, part of a series of reports on *Government's Role in Latin America's Development*.

127 Here's another one of those excellent folders produced by the Air Express Division of REA. This one is called, *Whodunnit?* It's a capsule commentary on notable achievements in graphic arts.

128 All about Pan American World Airways' Family Fare Plan—this one written with the woman in mind.

129 New 28-page catalog showing the complete line of Rapiatan casters and wheels for light- and heavy-duty use on all types of portable equipment.

130 Nine persons tell how they saved mailing time, cut postage costs, and gained a new postal convenience with metered mail. Read *What's Right with This Picture?*

131 New bulletin which lists the complete range of Baker-Raulang industrial trucks.

132 Descriptive literature and tariffs of American Shippers, Inc., domestic and international air freight forwarders.

MILITARY TRANSPORT

(Continued from Page 32)

test. The new Air Force fleet of *Super Connies* represents the largest single order of such transports ever placed. Quantity of ordered aircraft was not disclosed.

ANSWERS TO LAST MONTH'S CROSSWORD PUZZLE

ACROSS	DOWN
1. Bat	1. British Overseas
2. Seville	2. AAA
3. Los	3. Sabena
12. Ra	4. Elope
13. Ball	5. VI
14. East	6. Le
16. Re	7. Lasts
17. Hobo	8. Eatstem
18. Stay	10. Or
19. To	11. Seaboard Western
21. Wept	12. Bow
22. Aten	13. TAN
23. Ab	20. One
24. Ina	23. Ann
26. N. E. (New England)	25. An
28. S. E.	27. Capital
29. UNO	29. UN
30. Senna	31. Piper
31. Pam	32. Metes
33. Manna	34. Wad
34. Wiped	35. DAR
36. Overcapitalized	39. Too
37. Deter	40. Hi
38. Ethic	41. Creels
42. Ras	43. Flares
43. Pence	44. N. Y.
46. Roi	45. Cee
47. RR	48. RANSA
49. II	49. Inane
50. Yes	52. She
51. So	54. Pow
52. Seal	59. Po
53. Snap	61. AM
55. Et	62. AI
56. When	63. DA
57. Anon	
58. AP	
60. Elsa	
62. Anew	
63. Dr.	
64. Sol	
65. Samples	
66. Man	

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